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OBSERVATIONS

ON THE

Births, Marriages, and Deaths

IN

MASSACHUSETTS

IN 1879.

PREPARED FOR THE THIRTY-EIGHTH MASSACHUSETTS
REGISTRATION REPORT.

BOSTON:

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REGISTRATION REPORT.

BY



CHARLES F. FOLSOM, M.D.,

Formerly Lecturer on Hygiene, Harvard Medical School; Fellow of the American Academy of Arts and Sciences; Member of the American Statistical Association, the American Public Health Association, the Boston Society of the Medical Sciences, the Boston Society for Medical Improvement, the Boston Society for Medical Observation, etc.

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THIRTY-EIGHTH REGISTRATION REPORT. (1879.)

THE rate of increase of the population from 1870 to 1875, namely, 2·538 per cent annually, was not maintained during the succeeding years; and there was evidently no steady progress in the growth of the State, in respect to the number of inhabitants, from 1875 to 1880: so that the population for the intermediate years has been calculated from the assessed polls, the statistics of immigration and emigration, and the vital statistics. This method is open to objection as not being exact; but no better means can be devised in the absence of an annual census, and the figures which we have used this year (the same as given in the last report for the years 1876, 1877, and 1878) have been submitted to Col. Carroll D. Wright, Chief of the Bureau of Statistics and Superintendent of the United States Census for Massachusetts, who has given them his approval, as probably being as nearly correct as it is possible to make them.

There were recorded, in 1879, 40,295 births, 13,802 marriages, and 31,801 deaths; or 948 births *less* than in 1878, 909 marriages *more*, and 498 *deaths more*.

The excess of living births over deaths, as recorded, was 8,494, indicating a natural increase in the population of 1,441 less than in the previous year.

The population for the middle of the year 1879 has been estimated to be approximately 1,717,200, which would give the following rates for that year:—

Births	23 46	to 1,000 of population.
Marriages	8·04	" "
Deaths	18·52	" "
Excess of births over deaths	4·95	" "

The same assumed population would indicate one living child born to every 42 persons, one married in each 62, and one death in every 54 living.

In the following table the population for 1850 and each sub-

sequent fifth year is given according to the census. In the other years it has been computed; the unofficial, but nearly exact, returns for 1880 showing an increase in five years of 131,900, or from 1,651,912 in 1875 to 1,783,812 in 1880.

TABLE showing the number of BIRTHS, MARRIAGES, and DEATHS registered in Massachusetts during thirty years, with the Population and Rates.

YEARS.	Population.	Births.	Mariages.	Deaths.	Excess of Births over Deaths.	Births to 1,000 Persons.	Persons Married to 1,000.	Deaths to 1,000 Persons.	Rate of Increase to 1,000 Persons.	Ratio of Births to Marriages.*
1850 .	994,514	27,664	10,345	16,606	11,058	27.82	20.80	16.70	11.12	3.99
1851 .	1,002,003	28,681	11,966	18,934	9,747	28.62	23.88	18.90	9.72	2.77
1852 .	1,027,508	29,802	11,578	18,482	11,320	29.00	22.54	17.99	11.01	2.50
1853 .	1,075,007	30,920	12,828	20,301	10,619	28.76	23.86	18.88	9.88	2.67
1854 .	1,103,351	31,997	13,683	21,414	10,583	29.00	24.80	19.41	9.59	2.49
1855 .	1,132,364	32,845	12,329	20,798	12,047	29.01	21.77	18.37	10.64	2.40
1856 .	1,151,455	34,445	12,265	20,734	13,711	29.91	21.30	18.01	11.90	2.79
1857 .	1,170,862	35,320	11,739	21,280	14,040	30.17	20.05	18.17	12.00	2.88
1858 .	1,190,592	34,491	10,527	20,776	13,715	28.97	17.68	17.45	11.52	2.94
1859 .	1,210,656	35,422	11,475	20,976	14,446	29.26	18.96	17.33	11.93	3.36
1860 .	1,231,066	36,051	12,404	23,068	13,983	29.28	20.15	18.74	10.54	3.14
1861 .	1,238,110	35,445	10,972	24,085	11,360	28.63	17.72	19.46	9.17	2.86
1862 .	1,245,310	32,275	11,014	22,974	9,301	25.92	17.69	18.45	7.47	2.94
1863 .	1,252,500	30,314	10,873	27,751	2,563	24.20	17.36	22.16	2.04	2.75
1864 .	1,259,710	30,449	12,513	28,723	1,726	24.17	19.87	22.80	1.37	2.80
1865 .	1,267,031	30,249	13,051	26,152	4,097	23.87	20.60	20.64	3.23	2.42
1866 .	1,302,989	34,085	14,428	23,637	10,448	26.16	22.15	18.14	8.02	2.61
1867 .	1,339,968	35,062	14,451	22,772	12,290	26.17	21.57	16.99	9.18	2.43
1868 .	1,377,996	36,193	13,856	25,603	10,590	26.26	20.11	18.58	7.68	2.50
1869 .	1,417,103	36,141	14,826	26,054	10,087	25.50	20.92	18.38	7.12	2.61
1870 .	1,457,851	38,259	14,721	27,329	10,930	26.25	20.20	18.75	7.50	2.58
1871 .	1,494,338	39,791	15,746	27,943	11,848	26.63	21.07	18.70	7.93	2.70
1872 .	1,532,264	43,235	16,142	35,019	8,216	28.22	21.07	22.85	5.37	2.75
1873 .	1,571,152	44,481	16,437	33,912	10,569	28.31	20.92	21.58	6.73	2.76
1874 .	1,611,028	45,631	15,564	31,887	13,744	28.32	19.32	19.79	8.53	2.78
1875 .	1,651,912	43,096	13,663	34,978	9,018	26.63	16.54	21.17	5.46	2.83
1876 .	1,651,912	42,149	12,749	33,186	8,963	25.51	15.43	20.09	5.42	3.08
1877 .	1,657,265	41,850	12,758	31,342	10,508	25.25	15.40	18.91	6.34	3.28
1878 .	1,667,200	41,238	12,893	31,303	9,935	24.73	15.47	18.78	5.95	3.23
1879 .	1,717,200	40,295	13,802	31,801	8,494	23.46	16.07	18.52	4.95	3.13

* This rate is calculated by comparing the births in a given year with the marriages of the previous year. In the report of last year the births and marriages of the same year were used in making the calculation.

In Table X. the percentages for 1876 and 1877 remain as in former reports, calculated by the census of 1875, and not allowing for any increase in population. It is thought that this method, for the period in question, involves as small an error as would be likely to occur in any new estimate for those years; and it corresponds very nearly with the population assumed for the preceding table. For 1878 and 1879, in Table X., the same estimate of the population has been used as in the table on the preceding page.

In 1873, the year when the expansion following the war had reached its climax, and when the material prosperity of the people had attained its highest point, the number of marriages (16,437) was the greatest ever recorded in the State. In the succeeding year, naturally, the number of births (45,631) was the greatest; while still one year later the great comparative mortality of infants asserted itself by a larger number of total deaths than in any other year except 1872, when typhoid fever, measles, whooping-cough, and small-pox showed the greatest number of deaths in ten years; when scarlet fever was 30 per cent more fatal than for the average of those years; and when the proportion of deaths from "zymotic" diseases to the total from all causes rose from 23 to nearly 31 per cent.

The progressively decreasing rate of increase of the population since 1860, observable by the next table, is indicative probably, in part at least, of the fact that native Americans who remain in the State have smaller families now than those who formerly constituted its population; but the additional fact noticed in the previous table, that the ratio of births to marriages has decidedly increased in the last seven years (though slightly receding in 1878 and 1879), would tend to show that celibacy is becoming more common, the marriages having diminished more than the births; that is, of course, if the proportion of births and marriages not returned is the same from year to year.

Table showing Rates for Periods ending with Census Years.

	Mariages to 1,000 Persons.	Births to 1,000 Persons.	Deaths to 1,000 Persons.	Excess of Birth-Rate over Death-Rate.
5 years ending 1855	11·7	28·8	18·7	10·1
5 " " 1860	9·8	29·5	17·9	11·6
5 " " 1865	9·3	25·4	20·7	4·7*
5 " " 1870	10·5	26·1	18·2	7·9
5 " " 1875	9·9	27·6	20·8	6·8
4 " " 1879	7·8	24·7	19·1	5·6

By the following table it will be possible to compare the rate of increase in Massachusetts with those of some foreign countries, as given in the last English Registration Report :—

Table showing Rates of Increase of Population.

	Birth-Rate to 1,000 Persons for 20 years, 1853-1872.	Death-Rate for 20 years.	Excess of Births over Deaths.
Massachusetts	27·3	19·1	8·2
England and Wales	34·8	22·4	12·4
Denmark	31·6	20·3	11·3
Sweden	32·0	20·4	11·6
Austria	40·2	31·9	8·1
Prussia	37·7	27·2	10·5
The Netherlands	34·3	25·7	8·6
France	26·1	24·4	1·7

In calculations of rates of increase of nations, it has sometimes been the custom to give the ratio of births to marriages for any single year or for periods of time. These ratios will be found in the first table, page 2, for Massachusetts. For the latest year, 1876, in which the returns are available for several foreign countries, the ratios are as follows :—

Massachusetts, 3·08; France, 3·42; Austria, 3·73; Denmark, 4·24; Belgium, 4·48; England, 4·63; Netherlands, 4·84; Prussia, 4·92; Italy, 5·15, where the high rate is partly, at least,

* 8·3, excluding the three years most influenced by the war.

accounted for from the fact that all the marriages are not registered.

In properly estimating the value of the deductions from the registration returns for this State, the facts should be borne in mind that the *record of marriages is not complete*; that the births are got by a house-to-house visitation once a year, and many are therefore *not reported* ;* that a burial permit from the registrar and a certificate of the cause of death, so far as it is known, from the attending physician or board of health, are required before interment is allowed: so that the number of *deaths reported is probably nearly correct*; the causes of death, as returned, compare favorably in accuracy with similar statistics in most other countries, although falling far short of an attainable standard.

* The law recently passed requiring physicians to report all births is not generally enforced.

POPULATION.

The rapid rate of increase of the population of the State from 1870 to 1875 (2·538 per cent annually) was very largely due to immigration by land and sea, which reached its highest point in 1873. So far as the statistics of population are concerned, the succeeding depression, which began in 1873, was greatest in 1876, when there was a considerable emigration from the State, quite exceeding the immigration. The census of 1875 showed 194,561 more people in the State than in 1870; the natural increase by excess of births over deaths was 55,307, leaving 139,254 to be accounted for by immigration. There came to Boston by sea 130,205, and large numbers must have arrived by land; for many of the immigrants by water simply passed through the State. Those who came overland represent, to a certain extent, a floating population, who go to and from our cities and towns for employment. The extreme industrial depression of 1876 drove many of them from the State: immigration reached a very low point, and the emigration exceeded it. The Board of State Charities assisted 150 families to their homes in that year; and the Cunard Steamship Company carried from Boston alone 1,505 more emigrants to England than they brought back, as was the case also to a less degree in 1877. It has seemed fair to suppose that the population did not increase at all during 1876, and only a few thousands in 1877; while the excess of births over deaths (9,935), it is thought, would cover all the increase for 1878.

The present estimates of population are consistent with a consideration of the vital statistics of the last five years, during which there has been a gradual annual decrease in the number of births from 43,996 to 40,295, and in deaths from 34,978 to 31,801; while the marriages fell, though not so uniformly, from 13,663 in 1875 to 12,893 in 1878, the increase to 13,802 in 1879 being an indication of the returning prosperity and consequently increase of population since 1878.

The annual increase in the proportion of marriages of native-born as compared with foreign-born persons, from 53·25 per cent in 1873 to 62·19 per cent in 1879, in spite of a previous

decrease from 61·34 in 1863, confirms the view of an exodus of foreigners.*

New Towns, Changes of Names, &c.

The last notice in these reports of the incorporation, annexation, or change of names of cities or towns in the Commonwealth, was in the report of the year 1870, and stated the *annexation* of Roxbury and Dorchester to Boston in 1867 and 1869 respectively. Also the *change of the names* of South Danvers and South Reading to Peabody and Wakefield respectively in 1868, and of North Chelsea to Revere in 1871; and the *incorporation* of the town of Hyde Park in 1868, of Norfolk, Everett, Gay Head, and Mashpee in 1870, and of Ayer and Maynard in 1871.

The following additional changes have since occurred: —

1872.—The town of Norwood was incorporated Feb. 23, 1872, from Dedham and Walpole. The town of Holbrook was incorporated Feb. 27, 1872, from Randolph.

1874.—The city of Charlestown and the towns of Brighton and West Roxbury were annexed to Boston Jan. 1, 1874. The name of North Bridgewater was changed to Brockton March 28, 1874. The town of Rockland was incorporated March 9, 1874, from Abington.

1875.—The town of South Abington was incorporated March 4, 1875, from Abington, except a small portion from East Bridgewater.

1876.—The town of Merrimac was incorporated April 11, 1876, from Amesbury.

1878.—The town of Hampden, previously the south part of Wilbraham, was incorporated March 28, 1878. The town of North Adams was incorporated April 16, 1878, from Adams.

1880.—The town of Cottage City was incorporated Feb. 17, 1880, from Edgartown.

* The remarks with regard to population are copied from last year's report, as being necessary to the full explanation of the vital statistics of the years succeeding 1875.

BIRTHS.

The following table shows the number of births annually during the last twenty years:—

Table showing Births for Twenty Years.

YEARS.	Born alive.	Still-born.	Total.	YEARS.	Born alive.	Still-born.	Total.
1860 .	36,051	1,062	37,113	1870 .	38,259	1,019	39,278
1861 .	35,445	1,017	36,462	1871 .	39,791	1,390	41,181
1862 .	32,275	907	33,182	1872 .	43,235	1,283	44,518
1863 .	30,314	903	31,217	1873 .	44,481	1,246	45,727
1864 .	30,449	856	31,305	1874 .	45,631	1,469	47,100
1865 .	30,249	859	31,108	1875 .	43,996	1,374	45,370
1866 .	34,085	1,046	35,131	1876 .	42,149	1,274	43,423
1867 .	35,062	1,007	36,069	1877 .	41,850	1,254	43,104
1868 .	36,193	1,050	37,243	1878 .	41,238	1,261	42,499
1869 .	36,141	1,094	37,235	1879 .	40,295	1,261	41,556

Including still-births, the rate for 1879 is 24·19 to 1,000 population; excluding still-births, it is 23·46.

By the following table it may be seen that, during the years 1863–65, which were most influenced by the war, the birth-rate was low (24·08). In the years 1872–74 the rate was higher (28·28), when the expansion and extravagance following the war had reached their greatest height, and the influx of foreign laborers showed its greatest influence. There has been a considerable decline in our birth-rate in the twenty-nine years.

The birth-rate for 1879 is 1·27 per 1,000 less than for 1878, is less than that of any previous year, and is 3·65 per 1,000 less than the average for twenty-nine years.

Undoubtedly, a certain number of births escape registration; but greater efforts were made last year than usual to have the number complete. The statistics are certainly not less accurate from year to year; probably they are somewhat more so, and the conclusion seems inevitable that the natural increase of the

population of the State is somewhat less rapid now than formerly. According to Dr. Farr's statistics, the opposite fact is true of England, Prussia, and the Netherlands; while in Denmark, Austria, Sweden, Italy, and France, a small decrease, or at least only a slight change in their rates of increase, is observed.

Table showing Birth-Rates. — 1851-1879.

YEARS.	Births to 1,000 of Population.	YEARS.	Births to 1,000 of Population.
1851 . . .	28·62	1866 . . .	26·16
1852 . . .	29·00	1867 . . .	26·17
1853 . . .	28·76	1868 . . .	26·26
1854 . . .	29·00	1869 . . .	25·50
1855 . . .	29·01	1870 . . .	26·25
1856 . . .	29·91	1871 . . .	26·63
1857 . . .	30·17	1872 . . .	28·22
1858 . . .	28·97	1873 . . .	28·31
1859 . . .	29·26	1874 . . .	28·32
1860 . . .	29·28	1875 . . .	26·63
1861 . . .	28·63	1876 . . .	25·51
1862 . . .	25·92	1877 . . .	25·25
1863 . . .	24·20	1878 . . .	24·73
1864 . . .	24·17	1879 . . .	23·46
1865 . . .	23·87	Average . .	27·11

The following table gives the births in the several counties from 1865 to 1879 inclusive, and also the birth-rates for the three census years, by which it is possible to compare the several counties with themselves, with each other, and with the State at large: —

*Births, 1865-79, and Birth-Rates in Census Years, by Counties.**

Middlesex County. In 1868 Roxbury was annexed to Suffolk County from Norfolk County; in 1870, Dorchester; in 1874, West Roxbury, and also Brighton and Charlestown from

It may be seen that the low rates produced by the war (1865), as compared with the rates of 1870 and 1875, prevailed in all the counties except on the extreme Cape (Barnstable, Dukes, and Nantucket); but the latter counties also steadily decreased in population during these ten years. The most agricultural counties, Dukes, Nantucket, Barnstable, and Franklin, present the lowest rates. The next group in order, Plymouth and Hampshire, have less than one-half of their population in manufacturing towns; the other counties in order of their birth-rates for the three census years,—Essex, Berkshire, Bristol, Norfolk, Middlesex, Worcester, Hampden,—in a general way, have greater birth-rates, as the laboring classes, largely foreigners, predominate, until we come to the highest rate in Suffolk, which is made up almost wholly of the large city of Boston with Chelsea. From 1874, the year of the greatest number of births, there is a progressive decrease each year in the whole number of births in Barnstable; a similar decrease, with trifling variations, in Bristol, Essex, Norfolk, Plymouth, Worcester, and Middlesex; the same decrease, but changed in 1879 to an increase, in Berkshire, Hampshire, Franklin, Hampden, and Suffolk. The very small counties of Dukes and Nantucket, after some fluctuation, stand where they were in 1869.

It should be remembered that the decrease in birth-rates would show a still greater difference, if the total population of the State has increased (as we assume that it has) about 65,000 in the years compared.

Birth-Rates in Cities.—The following table includes the largest sixteen cities, containing nearly half the population of the State:—

City Births and Birth-Rates. — 1875-79.

CITIES.	Population by Census of 1875.	Birth-Rate in 1875.	Persons Living to One Birth.	BIRTHS.				
				1875.	1876.	1877.	1878.	1879.
Boston . .	341,919	32.12	31	10,984	10,751	10,494	10,160	10,165
Lowell . .	49,688	25.98	38	1,291	1,259	1,333	1,315	1,410
Worcester . .	49,317	30.13	33	1,486	1,554	1,414	1,455	1,462
Cambridge . .	47,838	26.17	38	1,252	1,206	1,423	1,362	1,401
Fall River . .	45,340	32.55	31	1,476	1,374	1,356	1,319	1,082
Lawrence . .	34,916	28.84	35	1,007	717	1,003	952	980
Lynn . .	32,600	24.57	41	801	764	731	620	715
Springfield . .	31,053	29.24	34	908	750	749	712	719
Salem . .	25,958	24.37	40	641	655	601	670	538
New Bedford . .	25,895	21.86	46	566	543	505	545	528
Somerville . .	21,868	33.52	30	733	636	638	547	549
Chelsea . .	20,737	26.62	37	552	525	532	489	520
Taunton . .	20,445	24.21	41	495	462	417	395	408
Gloucester . .	16,754	35.75	28	599	531	555	587	550
Holyoke . .	16,260	35.65	28	580	572	539	552	578
Newton . .	16,105	18.25	55	294	400	399	375	369
The 16 cities . .	796,693	29.70	34	23,665	22,699	22,689	22,055	21,974
The rest of the State . .	855,219	23.77	42	20,331	19,450	19,161	19,183	18,321
The whole State	1,651,912	26.63	37	43,996	42,149	41,850	41,238	40,295

A comparison of these results with an *estimate* (not here given) of the population for 1879 would show that the lowest birth-rates are found in New Bedford (19.06), Taunton (20.20), Salem (20.38), Lynn (21.03), Newton (21.58), Fall River (22.31), and Springfield (22.83). These results are evidently inaccurate, and must indicate a defective registration of births in some cases.

Cambridge and Newton are the only cities in the series showing a larger actual number of births than in 1875; the gains are pretty steady, and not inconsiderable. Fall River has 394 fewer births returned than in 1875, in spite of a gain of two or three thousand in population. There are in all, for the cities, 1,691 fewer births than in 1875; for the rest of the State, 2,010 fewer,—a greater proportionate loss in the latter case.

The defectiveness of registration here revealed is due to the fact that the births are usually taken by a census once a year, and of course are liable to omissions, in proportion to the number of people of limited intelligence and the frequency with which they change their homes.

Births and Birth-Rates, by Months and Quarters.—1879.

		Births registered in each Month.	Births registered in each Quarter.	Monthly Percentage of Births.	Quarterly Percentage of Births.	Birth-Rate per 1,000 Living in each Month.	Birth-Rate per 1,000 Living in each Quarter.
January . . .		3,226		8·0		1·88	
February . . .		3,064	9,612	7·6	23·8	1·78	5·50
March . . .		3,322		8·2		1·93	
April . . .		3,048		7·6		1·78	
May . . .		3,125	9,448	7·8	23·5	1·83	5·51
June . . .		3,275		8·1		1·90	
July . . .		3,544		8·8		2·06	
August . . .		3,720	10,636	9·2	26·4	2·16	6·19
September . . .		3,372		8·4		1·97	
October . . .		3,476		8·7		2·04	
November . . .		3,505	10,593	8·7	26·3	2·04	6·17
December . . .		3,612		8·9		2·09	
Not stated . . .		6	—	—	—	—	—
The year . . .		40,295	—	100·0	100·0	23·46	23·46

Seasons.—In the foregoing table the living births and rates are given by months and quarters.

Contrary to the common rule in this State (excepting the years 1875–77, when the birth-rate was highest in the third quarter), the rate was greatest in 1879 for the third quarter.

In the next table the comparison is carried through a series of fifteen years.

BIRTHS.*—By Months, Quarters, and Periods of Six Months.

Sixteen Years.

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1864.	2,249	2,155	2,499	2,351	2,379	2,419	2,592	2,796	2,653	2,776	2,708	2,841
1865.	2,350	2,211	2,554	2,344	2,278	2,378	2,516	2,826	2,726	2,691	2,626	2,704
1866.	2,313	2,228	2,659	2,695	2,683	2,628	3,057	3,052	3,136	3,248	3,139	3,223
1867.	2,590	2,432	2,848	2,504	2,804	2,759	3,023	3,187	3,029	3,330	3,208	3,280
1868.	2,769	2,640	2,966	2,709	2,821	2,813	3,253	3,302	3,197	3,319	3,245	3,138
1869.	2,632	2,455	2,864	2,628	2,793	2,858	3,241	3,403	3,315	3,373	3,162	3,399
1870.	2,916	2,650	3,102	3,015	3,094	3,083	3,248	3,494	3,310	3,470	3,323	3,542
1871.	3,131	2,883	3,206	2,997	3,063	3,103	3,426	3,710	3,435	3,721	3,407	3,702
1872.	3,104	3,216	3,503	3,248	3,385	3,536	3,857	4,103	3,862	3,860	3,711	3,844
1873.	3,348	3,230	3,616	3,177	3,384	3,571	3,777	4,087	3,974	4,053	4,000	4,261
1874.	3,598	3,252	3,750	3,443	3,686	3,689	4,018	4,266	4,010	4,032	3,871	3,994
1875.	3,305	3,204	3,570	3,391	3,564	3,603	3,820	4,071	3,937	3,838	3,742	3,933
1876.	3,173	3,237	3,605	3,342	3,299	3,343	3,651	3,950	3,564	3,755	3,515	3,695
1877.	3,404	3,127	3,436	3,078	3,146	3,314	3,735	3,854	3,677	3,796	3,607	3,673
1878.	3,181	3,116	3,442	3,172	3,248	3,121	3,525	3,765	3,639	3,776	3,555	3,690
1879.	3,226	3,064	3,322	3,048	3,125	3,275	3,544	3,720	3,372	3,476	3,505	3,612
Av.	2,956	2,819	3,184	2,945	3,047	3,093	3,393	3,599	3,427	3,532	3,395	3,533
	8,959				9,085			10,419			10,460	
	18,044										20,879	

During the sixteen years, 53·6 per cent of the births occurred during the latter half of the year, 46·4 per cent in the former half; 23·02 per cent in the first quarter, 23·34 in the second, 26·76 in the third, and 26·88 in the last. The largest number of births occurred eight times in August, five times in October, and three times in December. The lowest number of births was found in February for twelve years; in January and April, each for two years. The relative preponderance of births in the several months differs somewhat in different countries, and is evidently largely due to social customs.

Sex.—In 1879, as in 1878 and 1877, and for the aggregate of the previous twenty-five years, the general law of an excess of male over female births found expression in very nearly the

* Excluding 366 in which the months were not returned.

same proportions. The ratio of male to female still-born was as usual; the disparity illustrates the greater mortality of male infants at childbirth, due to their greater size. Of illegitimate infants, females usually preponderate; this relation is entirely reversed in 1879.

BIRTHS.—Proportion of Males to Females.—*Twenty-eight Years.*

	1879.	1878.	1877.	Previous Twenty-five Years.
Born alive . { Males . . 20,658	21,199	21,466	461,210	
Females . . 19,623	20,022	20,375	435,630	
Not stated . . 14	17	9	2,200	
Males to 100 females . . 105·4	105·9	105·3	105·9	
Still-born . { Males . . 695	672	710	13,428	
Females . . 473	489	474	9,009	
Not stated . . 93	100	70	2,755	
Males to 100 females . . 146·9	137·4	149·8	149·0	
Illegitimate . { Males . . 392	320	347	3,556	
Females . . 323	318	350	3,675	
Not stated . . 1	2	-	40	
Males to 100 females . . 121·4	100·6	99·1	96·8	

The operation of the law of preponderance of male over female births is illustrated by the following table of births by counties. The errors for a single year, and the percentage of possible error which must be allowed for, on account of the return of a certain number of births, *sex unknown*, may be seen at a glance.

BIRTHS.—Proportion of Males and Females, 1878 and 1879, and the Previous Fifteen Years.

COUNTIES.	1879.				1878.				1863-1877—FIFTEEN YEARS.			
	Males, per cent.	Females, per cent.	Males to 100 Females.	Males to 100 Females.	Males, per cent.	Females, per cent.	Males to 100 Females.	Males to 100 Females.	Total Births.	Males, per cent.	Females, per cent.	Unknown, per cent.	Males to 100 Females.
Barnstable	50.0	50.0	100	50.9	49.1	103.5	10,348	51.95	47.76	0.29	108.78	
Berkshire	50.6	49.4	102.4	48.2	51.7	93.3	23,261	51.97	47.89	0.14	108.51	
Bristol	50.2	49.8	100.8	50.3	49.7	101.3	40,741	51.85	47.97	0.18	107.94	
Dukes and Nantucket	51.6	48.4	106.6	53.7	46.3	115.8	1,803	52.80	46.76	0.44	112.93	
Essex	50.9	49.1	103.7	51.4	48.6	105.7	74,244	51.63	48.27	0.10	106.97	
Franklin	52.7	47.3	111.4	50.1	49.4	101.3	9,758	51.52	48.35	0.13	106.55	
Hampden	51.1	48.9	104.5	50.5	49.5	101.9	31,436	51.02	48.86	0.12	104.43	
Hampshire	50.1	49.9	100.4	51.6	48.4	106.5	14,662	52.05	47.84	0.11	108.81	
Middlesex	52.0	48.0	108.3	52.3	47.7	109.7	103,256	51.25	48.65	0.10	105.34	
Norfolk	51.6	48.4	106.6	51.1	48.9	104.4	37,672	51.13	48.70	0.17	104.96	
Plymouth	51.3	48.7	105.3	54.6	45.1	120.8	22,073	51.84	48.00	0.16	108.00	
Suffolk	51.2	48.8	104.9	51.1	48.9	104.6	128,421	51.00	48.99	0.007	104.08	
Worcester	51.7	48.3	107.0	52.2	47.8	109.5	74,210	51.48	48.40	0.12	106.36	
The State	51.3	48.7	105.3	51.4	48.6	105.9	571,885	51.40	48.50	0.10	105.93	

Parent-Nativity.—Just after the great immigration from Europe, which began in 1850, the distinction between the children born of Americans and of foreigners was marked and interesting. In 1878 the word "American" was dropped, and "native" was adopted in its place by Dr. Draper, on the ground that there are now many natives in the State whose parents were immigrants, and who may as properly be called Americans as those of the Puritan stock. The distinction is less valuable each successive year, and the races have even now become so intermingled that trustworthy conclusions regarding race-fertility could hardly be adopted from any study of the facts which the table furnishes us. It is given in the same form as last year.

EXHIBIT OF THE PARENTHAGE OF the Children Born Alive in the several Counties of Massachusetts during the year 1879.

PARENTHAGE.	STATE.	Barnstable.	Bristol.	Dukes and Norfolk.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.		
Aggregates	40,295	542	1,527	2,852	93	5,086	637	2,374	946	7,052	2,004	1,301	10,742	5,139
Both Parents native-born	16,768	424	747	1,170	78	2,418	399	897	469	2,891	144	973	3,252	2,106
Both Parents foreign-born	16,298	80	496	1,286	4	1,889	172	1,120	352	2,904	686	220	4,851	2,238
Native-born father and foreign-born mother	2,733	21	99	166	2	347	25	135	48	526	152	41	881	290
Foreign-born father and native-born mother	3,665	16	179	214	7	388	39	201	70	649	215	66	1,145	476
Not stated	831	1	6	16	2	44	2	21	7	82	7	1	613	29

PLURALITY CASES—(Included above).

Aggregates	709	10	32	52	2	84	12	34	16	128	38	26	185	90
Males	360	4	20	21	—	39	8	20	11	62	22	12	97	44
Females	349	6	12	31	2	45	4	14	5	66	16	14	88	46
Both parents native- born	142	2	6	9	—	18	6	7	2	28	8	8	35	13
Both parents for- eign-born	124	6	6	9	2	16	2	9	2	32	6	12	13	19
Males	161	—	8	12	—	17	1	9	9	23	10	4	44	24
Females	167	—	6	20	—	21	1	3	1	21	10	2	60	22

ILLEGITIMATE BIRTHS—(Included above).

If we calculate the percentages of the numbers in the foregoing table for the State at large, and carry the comparison through a series of years, we find that under the head "native-born" there is, since 1874, an apparent gain. The births of foreign parentage are less in proportion to the whole number than in any year since 1860, and the births of mixed parentage, which, in many cases, are really births of foreign parentage, are steadily increasing in their percentage.

Percentage of American and Foreign Living Births in 1879, and in each of the Previous Eleven Years, in Massachusetts.

	YEARS.	Native-Born Parents.		Foreign-Born Parents.		One Parent Foreign-Born.	
		Parents.	Parents.	Parents.	Parents.	Parents.	Parents.
1868 .	.	43·05		47·60		9·35	
1869 .	.	42·07		48·01		9·92	
1870 .	.	41·01		48·33		10·66	
1871 .	.	40·17		48·61		11·22	
1872 .	.	39·35		49·21		11·31	
1873 .	.	39·98		48·24		11·78	
1874 .	.	38·89		48·43		12·68	
1875 .	.	39·87		46·71		13·42	
1876 .	.	40·64		45·00		14·36	
1877 .	.	41·17		44·03		14·80	
1878 .	.	42·01		42·35		15·64	
1879 .	.	42·49		41·29		16·22	

The next table makes the changes just spoken of still more apparent, inasmuch as a long series of years is included in the comparison :—

Percentage of American and Foreign Living Births in the Past Thirty Years.

	Average. 1849-55.	Average. 1854-58.	Average. 1859-63.	Average. 1864-68.	Average. 1869-73.	1874.	1875.	1876.	1877.	1878.	1879.
American .	63·02	50·38	46·06	43·85	40·54	38·89	39·87	40·64	41·17	42·01	42·49
Foreign .	35·96	44·12	46·89	47·73	48·48	48·43	46·71	45·00	44·03	42·35	41·29
One parent foreign .	1·02	5·50	7·05	8·42	10·98	12·68	13·42	14·36	14·80	15·64	16·22

As may be readily seen, the percentages in the two preceding tables were calculated by leaving out of consideration the children whose parentage was not stated in the returns. How great the liability to error is on that score, may be observed from the following table, a striking deduction from which is, that the registration officers have been very much less successful in getting accurate returns in that respect during the last ten years, more than three times as many births being reported with the parentage not stated in 1878 as in 1869.

By going back twenty years, however, we find a very great gain in absolute numbers of returns incomplete with respect to the statement of the parentage, and an excessively improved rate. In 1859 there were 1,465 marriage-certificates imperfect in that respect, as compared with 846 in 1878.

It may also be properly said here, that the marriages were first reported with a tolerable degree of completeness in 1850, and that the low marriage-rate of 1849 is due to the fact that the returns were not nearly all made to the registration officers.

NUMBER OF BIRTHS during each of the TWENTY YEARS, 1860-79, exhibiting the SEX and PARENTAGE.

	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.
Totals	•	•	•	36,051	35,445	32,275	30,314	30,449	30,219	34,085
Males	•	•	•	18,504	18,286	16,594	15,692	15,634	15,623	17,394
Females	•	•	•	17,450	17,078	15,604	14,579	14,745	14,554	16,603
Unknown	•	•	•	97	81	77	43	70	72	88
PARENTAGE.										
Native	•	•	•	16,672	16,097	14,423	13,066	13,453	13,276	15,014
Foreign	•	•	•	16,138	16,125	14,941	14,540	14,266	14,130	15,989
Native father and foreign mother	•	•	•	1,237	1,224	1,142	1,059	1,030	1,115	1,316
Foreign father and native mother	•	•	•	1,174	1,258	1,154	1,085	1,209	1,291	1,482
Not stated	•	•	•	830	741	615	564	491	437	284

NUMBER OF BIRTHS, &c.—Concluded.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
Totals	•	•	•	38,259	39,791	43,235	44,481	45,631	43,996	42,149
Males	•	•	•	19,803	20,289	22,140	22,974	23,657	22,457	21,705
Females	•	•	•	18,434	19,488	21,066	21,485	21,958	21,513	20,410
Unknown	•	•	•	22	14	29	22	16	26	34
PARENTAGE.										
Native	•	•	•	15,563	15,797	16,922	17,647	17,508	17,314	16,790
Foreign	•	•	•	18,339	19,120	21,112	21,293	21,807	20,289	18,590
Native father and foreign mother	•	•	•	1,787	1,898	2,099	2,139	2,354	2,418	2,448
Foreign father and native mother	•	•	•	2,256	2,516	2,765	3,062	3,354	3,411	3,485
Not stated	•	•	•	314	460	337	340	608	564	836

Plural Births.—Three hundred and fifty-four women gave birth during the year to 709 living children. There were 353 twin-births, and one case of triplets (two males and one female). The following table shows the statistics of plural births during the past fifteen years, classified with reference to the nativity of the parents :—

PARENTAGE of Plural Births.—*Sixteen Years.*

YEARS.	TOTALS.	NATIVE-BORN.		FOREIGN-BORN.		MIXED.		PARENTAGE NOT STATED.	
		NOS.	PERCENTAGES.	NOS.	PERCENTAGES.	NOS.	PERCENTAGES.	NOS.	PERCENTAGES.
1864 . .	597	239	40·0	324	54·3	34	5·7	—	—
1865 . .	591	251	42·4	286	48·4	50	8·5	4	0·7
1866 . .	708	295	41·7	347	49·0	64	9·0	2	0·3
1867 . .	681	292	42·9	339	49·8	48	7·0	2	0·3
1868 . .	722	305	42·3	343	47·5	66	9·1	8	1·0
1869 . .	696	288	41·4	320	46·0	86	12·3	2	0·3
1870 . .	697	302	43·3	333	47·8	62	8·9	—	—
1871 . .	739	222	30·0	407	55·1	104	14·1	6	0·8
1872 . .	759	276	36·4	416	54·8	67	8·8	—	—
1873 . .	832	326	39·2	417	50·1	89	10·7	—	—
1874 . .	812	267	32·9	437	53·8	102	12·6	6	0·7
1875 . .	769	277	36·0	418	54·4	72	9·4	2	0·2
1876 . .	702	252	35·9	342	48·7	106	15·1	2	0·3
1877 . .	815	304	37·3	416	51·0	95	11·7	—	—
1878 . .	815	343	42·1	358	43·9	112	13·7	2	0·3
1879 . .	709	276	38·9	328	46·3	103	14·5	2	0·3

The proportion of plural births is shown for a series of years, by the following table, not to vary a great deal. About one case, including triplets, may be expected to occur in each hundred of single living births.

PLURAL BIRTHS in Massachusetts.—*Sixteen Years.*

YEARS.	Cases of Twins.	Cases of Triplets.	No. of Living Births to One Case of Twins.	No. of Living Births to One Case of Triplets.
1864	294	3	104	10,149
1865	288	5	96	6,050
1866	351	2	105	16,865
1867	333	5	103	7,012
1868	352	6	103	6,032
1869	339	6	107	6,023
1870	344	3	111	12,753
1871	362	5	109	7,958
1872	375	3	115	14,412
1873	407	6	109	7,603
1874	400	4	114	11,408
1875	380	3	116	14,665
1876	345	4	122	10,537
1877	398	5	105	8,370
1878	397	7	104	5,891
1879	353	1	114	40,295

Illegitimate Births.—Seven hundred and sixteen births were recorded as illegitimate in the State, during the year 1879, with an increasing population. This constitutes an increase, absolutely and relatively, over any previous year, in spite of the fact that the number of marriages to 1,000 living had not declined, but had remained at about the same point for three years previous to 1879. During all the years of the recent industrial depression (1873–1878), the rate was unusually high, while the annual number of marriages declined in the same period very nearly one-fourth. If this depression may be considered as a cause, its effects have manifestly culminated in the last year of the series, and have come to light in the year 1879.

ILLEGITIMATE BIRTHS registered in Massachusetts.—*Twenty Years.*

YEARS.	CHILDREN BORN OUT OF WEDLOCK.		YEARS.	CHILDREN BORN OUT OF WEDLOCK.	
	Numbers.	To every 1,000 Births.		Numbers.	To every 1,000 Births.
1860	294	8·1	1870	285	7·4
1861	290	8·2	1871	432	10·9
1862	247	7·6	1872	303	7·0
1863	277	9·1	1873	587	13·2
1864	285	9·3	1874	648	14·2
1865	271	8·9	1875	632	14·4
1866	281	8·2	1876	713	16·9
1867	292	8·3	1877	697	16·6
1868	306	10·1	1878	640	15·5
1869	286	7·9	1879	716	17·8

The next table illustrates the nativity of mothers of illegitimate children born from 1864 to 1879, subject to the limitations that the proportions of native and foreign unmarried women are not given, and that the word "native" or "American" very often indicates an origin outside of Massachusetts, or from foreign stock in the previous generation.

ILLEGITIMATE BIRTHS.—Nativity of Mothers.—Sixteen Years.

YEARS.	Total.	NATIVE.		FOREIGN.		NOT STATED.	
		Nos.	Percentages.	Nos.	Percentages.	Nos.	Percentages.
1864	285	160	56·2	109	38·2	16	5·6
1865	271	145	53·5	116	42·8	10	3·7
1866	281	152	54·1	123	43·7	6	2·2
1867	292	167	57·2	119	40·7	6	2·1
1868	366	191	52·2	148	40·4	27	7·4
1869	286	153	53·4	116	40·6	17	6·0
1870	285	154	54·0	111	39·0	20	7·0
1871	432	228	52·8	164	38·0	40	9·2
1872	303	165	54·5	121	39·9	17	5·6
1873	587	306	52·1	269	45·8	12	2·1
1874	648	326	50·3	303	46·8	19	2·9
1875	632	250	39·6	354	56·0	28	4·4
1876	713	377	52·9	270	37·9	66	9·2
1877	697	378	54·2	292	41·9	27	3·9
1878	640	353	55·2	206	32·2	81	12·6
1879	716	429	59·9	225	31·4	62	8·7

During the last seven years the proportion of illegitimate children born in the State has been much higher than ever before. In England, on the contrary, the foreign country most similar to ours in laws and social customs, there has been a progressive improvement in that respect, the rate per 1,000 of births having steadily diminished from 59 in 1867 to 47 in 1877, still remaining, however, three times as great as the average of our worst seven years, 1873-79, which was 15½ per 1,000. For 1879 the facts for Massachusetts were as follows:—

Of the 716 illegitimate infants, 392 were males, 323 were females, and in the case of one the sex was not ascertained.

The females are usually more numerous than the males. There were born in State institutions (Almshouse and Prison for Women) 6·8 per cent, and 62·6 were reported in Boston, where, also, 105 foundlings were cared for, of unknown parentage. In that city 4·4 per cent of the births recorded were illegitimate, although many of the mothers probably went from smaller towns for the concealment possible in a great crowd. Excluding Boston and the State institutions, the ratio of illegitimate to legitimate births in the rest of the State (excluding still-born, as is usual, except when the contrary is stated) for 1879 was 0·73 to 100.

Still-born.—There were registered 1,261 still-births during the year, the same number as in 1878,—695 males, 473 females, and 93 whose sex was not recorded. Probably these numbers fall short of the actual truth. The percentage of ascertained still-births to living births for the year was 3·13; in 1878 it was 3·06; in 1877, 2·99.

The numbers of "still-births" for each of the last twenty years are given in the table on page 8. It is difficult to estimate the full importance of these figures. The proportion to the population is ten per cent larger in the latter than in the former half of that period. They represent diseased conditions in one parent or both, unavoidable accidents, necessary hardships or exposure, simple want of physical strength, luxurious habits, and, finally, criminal acts.

MARRIAGES.

In 1879 the marriages recorded were 13,802, as compared with 12,893 in 1878, and 12,758 in 1877, and 12,749 in 1876. The rate for these three previous years had been lower than at any other time since 1849. This decrease, and the following increase, are probably due in great part to fluctuations in the business prosperity of the country, and in the movement of immigration. The registration is certainly not less accurate now than formerly.

The marriage-rate in 1879 was 16·08; or, in other words, there were 8·04 marriages to each 1,000 living, assuming that there has been no great error in the estimation of the population. Although a considerable improvement on the rates of 1878, 1877, and 1876, this is 3·09 per 1,000 below the average for twenty-five years, and 1·28 per 1,000 lower than the lowest annual marriage-rate during the recent civil war. The marriage-rates for each of the last twenty-five years, and their average, are given in the following table:—

MARRIAGE-RATE in Massachusetts. — *Twenty-five Years.*

YEARS.	Marriages.	Persons Married to 1,000 living.	Number living to One Marriage.	YEARS.	Marriages.	Persons Married to 1,000 living.	Number living to One Marriage.
1855 .	12,329	21·77	92	1868 .	13,856	20·11	99
1856 .	12,265	21·30	94	1869 .	14,826	20·92	96
1857 .	11,739	20·05	100	1870 .	14,721	20·20	99
1858 .	10,527	17·68	113	1871 .	15,746	21·07	95
1859 .	11,475	18·96	106	1872 .	16,142	21·07	95
1860 .	12,404	20·15	99	1873 .	16,437	20·92	96
1861 .	10,972	17·72	113	1874 .	15,564	19·32	103
1862 .	11,014	17·69	113	1875 .	13,663	16·54	121
1863 .	10,873	17·36	115	1876 .	12,749	15·43	129
1864 .	12,513	19·87	101	1877 .	12,758	15·40	130
1865 .	13,051	20·60	97	1878 .	12,893	15·47	129
1866 .	14,428	22·15	90	1879 .	13,802	16·08	124
1867 .	14,451	21·57	93	Av'ge .	.	19·17	

By the following table it may be seen that our present marriage-rate is very nearly that of the older countries of Europe, the great material prosperity of former days, and the ease with which a competence has been secured, not being so much greater than in other countries as it was before the last financial crisis.

MARRIAGE-RATES in several Countries. — *Twenty-five Years.*

COUNTRIES.	AVERAGE ANNUAL NUMBER MARRIED FOR 1,000 POPULATION IN THE YEARS 1853-76.					
	In 20 years, 1853-72.	1873.	1874.	1875.	1876.	1877.
Massachusetts	20·4	20·9	19·3	16·5	15·4	15·4
England and Wales	16·9	17·6	17·1	16·8	16·7	15·8
Denmark	15·9	16·2	16·4	16·9	17·0	16·1
Sweden	14·1	14·6	14·5	14·0	14·1	13·7
Austria	17·3	18·5	17·9	16·9	16·3	14·8
Prussia	17·1	20·3	19·4	18·0	17·1	16·0
The Netherlands	15·9	17·0	16·6	16·6	16·4	16·0
France	15·9	17·8	16·7	16·7	15·8	15·1

County Marriage-Rates. — In the following table the rates of marriages are given for the several counties, for the two quinquennia ending in the last two census years, and also the number of marriages in each for the last three years:—

MARRIAGES in Massachusetts, 1866-79. — *Marriage-Rates and Marriages, by Counties.*

COUNTIES.	MARRIAGES TO 1,000 OF POPULATION.		NUMBERS LIVING TO ONE MARRIAGE.		MARRIAGES.			
	1866-70.	1871-75.	1866-70.	1871-75.	1876.	1877.	1878.	1879.
Barnstable .	9·41	9·37	107	107	265	254	247	237
Berkshire .	9·56	7·56	103	133	399	440	466	465
Bristol .	10·48	11·08	96	93	1,076	1,083	1,008	1,027
Dukes .	7·69	9·06	136	111	31	35	29	33
Essex .	11·55	10·21	87	99	1,795	1,888	1,814	2,031
Franklin .	9·10	8·49	112	118	246	201	246	265
Hampden .	12·26	10·87	82	93	809	782	751	818
Hampshire .	11·01	8·11	91	124	330	300	337	378
Middlesex .	10·87	10·12	92	101	2,172	2,245	2,147	2,396
Nantucket .	8·63	9·19	121	112	24	32	18	28
Norfolk .	7·73	7·68	130	131	607	566	618	702
Plymouth .	8·92	8·71	113	116	518	497	510	525
Suffolk .	14·45	12·69	69	81	3,023	2,945	3,065	3,224
Worcester .	10·74	9·08	93	111	1,454	1,490	1,637	1,643
Whole State	11·11	10·17	90	99	12,749	12,758	12,893	13,802

City Marriage-Rates.—The marriage-rates and the numbers of marriages in the sixteen cities exceeding 15,000 in population by the census of 1875, are given in the next table for 1875, and the numbers of marriages alone in the four succeeding years; by which it may be seen that the marriage-rate has been less affected in the last four years in smaller towns and the country, than in the large cities.

City Marriages and Marriage-Rates.—1875-79.

CITIES.	Population by Census of 1875.	Marriage-Rate In 1875.	Persons Living to one Mar- riage, 1875.	MARRIAGES.				
				1875.	1876.	1877.	1878.	1879.
Boston . .	341,919	9·68	103	3,311	2,814	2,767	2,892	3,039
Lowell . .	49,688	10·26	97	510	524	549	546	661
Worcester . .	49,317	8·45	118	417	389	378	439	420
Cambridge . .	47,838	8·24	121	394	331	354	332	350
Fall River . .	45,340	9·79	102	444	413	457	407	342
Lawrence . .	34,916	10·89	92	380	323	330	339	365
Lynn . .	32,600	8·71	115	284	302	338	298	378
Springfield . .	31,053	9·69	109	301	262	296	239	274
Salem . .	25,958	6·78	147	176	172	164	180	213
New Bedford . .	25,895	10·54	95	273	241	280	257	298
Somerville . .	21,868	5·90	169	129	136	148	155	183
Chelsea . .	20,737	8·73	115	181	197	166	160	168
Taunton . .	20,445	7·34	136	150	133	130	103	137
Gloucester . .	16,754	9·25	108	155	173	164	146	147
Holyoke . .	16,260	13·10	76	213	152	165	160	205
Newton . .	16,105	6·90	144	112	83	94	83	89
The 16 cities .	796,693	9·31	107	7,430	6,645	6,780	6,736	7,269
The rest of the State . .	855,219	7·28	137	6,233	6,104	5,978	6,157	6,533
The whole State	1,651,912	8·27	121	13,663	12,749	12,758	12,893	13,802

Season.—The usual rule is illustrated in the following table, that November is the month of the greatest, and March of the least, number of marriages. The law of the preponderance of the different seasons is also observed this year.

MARRIAGES, by Months and Quarters.—1879.

MONTHS.					Marriages registered in each Month.	Marriages registered in each Quarter.	Quarterly Percentage of Total Marriages.
January					1,137		
February					1,188	2,921	21·16
March					596		
April					1,091		
May					1,108	3,445	24·96
June					1,246		
July					943		
August					877	2,948	21·36
September					1,128		
October					1,550		
November					1,770	4,476	32·43
December					1,156		
Unknown					12	-	·09
The year					13,802	-	100 00

By the next table it may be seen that the fourth season occupies the first place, and the second the next, for each of the last ten years; that the third quarter comes third seven times, and fourth three times. The percentages are calculated, as usual, from the total number of marriages in which the month of the ceremony was recorded (13,790), leaving out the 12 occurring in an unknown season of the year.

MARRIAGES given Quarterly for Ten Years.

YEARS.	1st Quarter.		2d Quarter.		3d Quarter.		4th Quarter.	
	Nos.	Per-centages.	Nos.	Per-centages.	Nos.	Per-centages.	Nos.	Per-centages.
1870	3,277	22·26	3,625	24·62	3,259	22·14	4,560	30·98
1871	3,421	21·72	3,800	24·13	3,616	22·96	4,909	31·18
1872	3,423	21·21	4,157	25·75	3,711	22·99	4,851	30·05
1873	3,600	21·90	4,269	25·97	3,738	22·74	4,830	29·39
1874	3,303	21·22	4,052	26·03	3,466	22·27	5,743	30·48
1875	2,918	21·36	3,583	26·22	3,193	23·37	3,969	29·05
1876	2,850	22·35	3,201	25·11	2,811	22·05	3,887	30·49
1877	2,590	20·32	3,337	26·18	2,866	22·49	3,952	31·01
1878	2,953	22·95	3,229	25·10	2,808	21·83	3,876	30·12
1879	2,921	21·18	3,445	24·98	2,948	21·38	4,476	32·46
Average	3,126	21·65	3,670	25·41	3,241	22·42	4,505	30·52

AGES at Marriage of 13,780 MEN and of 13,765 WOMEN.

AGES at Marriage of 11,459 BACHELORS and of 12,370 MAIDS.

Bachelors	:	:	:	279	4,777	4,164	1,476	480	151	66	20	14	6	7	1	1	-	-	17
Maids	:	:	:	2,508	5,909	2,700	712	313	117	57	13	6	5	1	-	-	-	-	20

AGES at Marriage of 2,331 WIDOWERS and of 1,420 WIDOWS.

Widowers	:	:	:	-	72	279	426	452	341	230	204	126	85	68	23	29	2
Widows	:	:	:	-	132	294	282	271	170	128	62	32	23	12	5	1	5

The approximate average age of all the men married in 1879, was	29.2
women married in 1879, was	25.2
men marrying for the first time in 1879, was	26.7
women marrying for the first time in 1879, was	23.9

APPROXIMATE AVERAGE AGES at Marriage.—Ten Years.

YEARS,	Average Age of all Bridegrooms.	Average Age of all Brides.	Average Age of Men Marrying for the first time.	Average Age of Women Marrying for the first time.
1870 . . .	28·8	24·9	26·3	23·6
1871 . . .	28·6	24·6	26·3	23·5
1872 . . .	28·6	24·7	26·3	23·4
1873 . . .	28·7	24·8	26·3	23·5
1874 . . .	28·8	25·3	26·2	23·6
1875 . . .	28·9	25·0	26·3	23·6
1876 . . .	29·2	25·3	26·5	23·7
1877 . . .	29·2	25·2	26·4	23·8
1878 . . .	29·2	25·0	26·5	23·8
1879 . . .	29·2	25·2	26·7	23·9

The preceding two tables are given, in accordance with custom, as stating certain facts with regard to the ages of persons married in 1879, and the approximate average ages at the time of marriage, so far as they can be calculated from Table V.

The uniformity of the custom in selecting the age for marriage, or at which marriage is possible under our social laws, is quite noticeable.

There were 1,057 more first marriages and 15 fewer second marriages of women in 1879 than in 1878; there were 837 more first marriages and 87 more second marriages of men than in 1878. The facts for 1879 are given in the next table.

*Social or Conjugal Condition of Persons Married in Massachusetts.
1879.*

MALES,	Whole No. of Marriages.	FEMALES.				
		First Marriage.	Second Marriage.	Third Marriage.	Fourth Marriage.	Unknown.
Number of the Marriage.						
Whole number .	13,802	12,370	1,348	64	8	12
First marriage .	11,459	10,816	626	16	1	—
Second marriage .	2,140	1,466	630	39	5	—
Third marriage .	174	83	82	7	2	—
Fourth marriage .	14	5	8	1	—	—
Fifth marriage .	2	—	1	1	—	—
Sixth marriage .	1	—	1	—	—	—
Unknown .	12	—	—	—	—	12

The percentages of first and subsequent marriages are shown, by the following table, not to vary very greatly from year to year:—

PERCENTAGES of First and Subsequent Marriages.—*Ten Years.*

		First Marriage.	Second Marriage.	Third Marriage.	Fourth Marriage.	Fifth Marriage.	Sixth Marriage.	Not Stated.
1870	{ Males .	83.97	14.12	1.41	.19	.01	—	.29
	{ Females .	89.06	10.22	.41	.02	—	—	.29
1871	{ Males .	84.21	14.14	1.39	.13	.01	—	.11
	{ Females .	89.37	10.07	.43	.01	—	—	.11
1872	{ Males .	84.96	13.39	1.46	.06	.01	—	.12
	{ Females .	89.15	10.27	.45	.01	—	—	.12
1873	{ Males .	81.48	14.08	1.23	.08	.01	.01	.11
	{ Females .	89.30	9.25	1.33	.01	—	—	.11
1874	{ Males .	83.88	14.46	1.47	.09	.01	—	.09
	{ Females .	89.22	10.18	.50	.01	—	—	.09
1875	{ Males .	83.03	14.90	1.75	.12	.05	—	.15
	{ Females .	88.66	10.48	.68	.03	—	—	.15
1876	{ Males .	82.28	15.92	1.55	.12	.02	—	.11
	{ Females .	88.06	11.28	.51	.03	.01	—	.11
1877	{ Males .	82.49	15.43	1.73	.17	.02	—	.16
	{ Females .	88.66	10.60	.55	.03	—	—	.16
1878	{ Males .	82.38	15.93	1.31	.14	.03	—	.21
	{ Females .	88.63	10.57	.56	.03	—	—	.21
1879	{ Males .	83.02	15.51	1.26	.10	.02	.01	.08
	{ Females .	89.62	9.78	.46	.06	—	—	.08

There were 10,816 bachelors in Massachusetts during the year married to maids; 643 bachelors were married to widows; 1,554 widowers married maids; and 777 widowers married widows. There were 2,331 widowers and 1,420 widows married.

Following the usual custom, remarkable disparities in the ages of those who were married during the year are shown in the next two tables:—

Certain Marriages.—1879.

Certain Marriages.—Ages, 1879.

First Marriage of both Parties.			First Marriage of both Parties- Con.			2d Male. 1st Female.		3d Male. 1st Female.		4th Male. 2d Female.		
Ages.	No. of Couples.	Ma.	Ages.	No. of C'ples.	Ma.	Ages.	Males.	Females.	Males.	Females.	Males.	Females.
Ma.	Fe.		Ma.	Fe.		Ma.		Ma.		Ma.		
16	20	1	26	15	1	21	22	28	20	43	37	
16	21	1	26	16	7	30	17	29	22	45	42	
17	15	1	26	17	9	41	17	35	18	63	46	
17	16	2	27	16	6	42	65	44	22	67	53	
17	17	3	27	17	14	43	55	50	25			
17	18	3	28	15	2	45	16	53	28			
17	19	2	28	16	1	49	18	61	28			
17	20	2	28	17	6	52	18	65	23			
17	22	1	29	16	3	53	19	74	35			
17	23	1	29	17	2	60	20					
18	14	1	30	17	1	76	14					
18	15	1	31	17	2							
18	16	5	32	16	1							
18	17	18	32	17	3							
18	18	42	34	17	1							
18	19	15	35	16	1							
18	20	7	35	17	1							
18	21	4	36	17	1							
18	22	1	37	17	1							
18	23	2	39	17	1							
18	25	4	40	16	1							
19	13	1	41	16	1							
19	14	1	53	23	1							
19	15	1	73	37	1							
19	16	12										
19	17	20										
19	18	50										
19	19	50										
19	20	18										
19	21	16										
19	22	8										
19	23	4										
19	24	2										
19	25	4										
20	15	2										
20	16	12										
20	17	30										
20	18	73										
20	19	73										
20	20	83										
20	21	41										
20	22	30										
20	23	14										
20	24	9										
21	14	1										
21	15	7										
21	16	13										
21	17	47										
22	15	1										
22	16	16										
22	17	35										
23	15	2										
23	16	7										
23	17	34										
24	15	5										
24	16	6										
24	17	44										
24	44	1										
24	45	1										
25	15	1										
25	16	12										
25	17	25										
			30	40								

The gradual decrease in the proportion of marriages of native-born persons until the year 1873, and then the increase from that time forward, form another illustration of what has already been said of the movement of the population and decrease in the proportion of foreigners since the beginning of the present financial crisis. Native-born persons are children of families who had just arrived, or who may have been in this country from a short time to several generations.

MARRIAGES according to Nativity. — *Percentages.*

YEARS.	Both Parties Native-Born.	Both Parties Foreign-Born.	Native-Born Groom and Foreign-Born Bride.	Foreign-Born Groom and Native-Born Bride.	Not Stated.
1863 . . .	61·34	27·85	4·44	5·14	1·23
1864 . . .	60·53	28·32	4·52	6·08	·55
1865 . . .	59·58	29·29	4·49	6·16	·48
1866 . . .	58·81	27·84	5·32	6·51	1·52
1867 . . .	58·39	28·96	5·40	6·31	·94
1868 . . .	58·10	29·08	5·41	6·94	·47
1869 . . .	57·48	29·26	5·24	7·58	·44
1870 . . .	56·79	29·01	6·12	7·98	·10
1871 . . .	55·71	29·37	6·24	8·50	·18
1872 . . .	53·89	30·76	6·85	8·42	·08
1873 . . .	53·26	31·12	6·56	8·99	·07
1874 . . .	53·64	29·29	6·88	9·08	·15
1875 . . .	57·03	27·09	7·05	8·82	·01
1876 . . .	58·43	25·52	7·55	8·32	·18
1877 . . .	60·00	22·76	8·00	9·11	·13
1878 . . .	61·38	21·52	8·34	8·64	·12
1879 . . .	62·19	20·23	8·29	9·23	·06

PROPORTION OF NATIVE TO FOREIGN BORN PERSONS MARRIED.

YEARS.	Native-Born.	Foreign-Born.	YEARS.	Native-Born.	Foreign-Born.
1863 . .	65·95	33·05	1872 . .	61·57	38·43
1864 . .	66·18	33·82	1873 . .	61·08	38·92
1865 . .	65·22	34·78	1874 . .	62·67	37·33
1866 . .	65·73	34·27	1875 . .	64·96	35·04
1867 . .	64·85	35·15	1876 . .	66·49	33·51
1868 . .	64·58	35·42	1877 . .	68·64	31·36
1869 . .	64·17	35·83	1878 . .	69·95	30·05
1870 . .	63·89	36·11	1879 . .	70·99	29·01
1871 . .	63·19	36·81			

DEATHS.

From 1875 to 1878 there was an annual decrease in the number of deaths from 34,978 to 31,303; in 1879 there was an increase to 31,801. The death-rate fell from 21.17 per 1,000 living in 1875 to 18.78 in 1878, and 18.52 in 1879. It is thought that few deaths escape registration now, and that under the new law the causes of death are more accurately stated than formerly, although there is still room for improvement in that respect.

The year 1879 has been one of average good health. No great epidemics have occurred. Of the five diseases noted in last year's report as having been prevalent and fatal to an unusual degree, measles has hardly prevailed at all in a fatal sense, whooping-cough and dysentery have diminished a good deal, diphtheria and croup somewhat. Scarlatina, however, caused twice as many deaths as in 1878. Cholera infantum has steadily diminished for four years, and now the deaths are but little more than one-half what they were in 1875. This cannot be due to cool weather; for last season was a hot one. Doubtless a share of the credit is due to the active efforts at public sanitation which have been made within a few years by boards of health. Perhaps the change is partly ascribable to the increase of the practice of leaving the cities during summer.

The Developmental Diseases of children have undergone a similar steady diminution to about four-fifths of the mortality of 1875; but, on the other hand, a decided increase in certain adult diseases has occurred. This will be analyzed more fully on a later page.

The number of deaths registered is a little larger than that for the past three years; but the death-rate is the lowest since 1869, and is 0.7 below the average of thirty-one years.

It may be seen by the table on the next page how the mortality-rates of the various years compare with each other since 1849, when the registration was first established on a basis of a considerable degree of completeness, after the experiments necessary to avoid prominent sources of error. Previous to 1849, too, the reports were made for the years ending March 31, instead of December 31, as has been the later rule.

DEATH-RATES in Massachusetts.—1849-79.

YEARS.							Deaths registered.	Deaths to 1,000 Persons living.	Annual Mean of Quinquennial Periods.
1849	20,423	21·16							
1850	16,606	16·70							
1851	18,934	18·90							
1852	18,482	17·99							
1853	20,301	18·88							18·71
1854	21,414	19·41							
1855	20,798	18·37							
1856	20,734	18·01							
1857	21,280	18·17							
1858	20,776	17·45							17·94
1859	20,976	17·33							
1860	23,068	18·74							
1861	24,085	19·46							
1862	22,974	18·45							
1863	27,751	22·16							20·70
1864	28,723	22·80							
1865	26,152	20·64							
1866	23,637	18·14							
1867	22,772	16·99							
1868	25,603	18·58							18·17
1869	26,054	18·38							
1870	27,329	18·75							
1871	27,943	18·70							
1872	35,019	22·85							
1873	33,912	21·58							20·82
1874	31,887	19·79							
1875	34,978	21·17							
1876	33,186	20·09							
1877	31,342	18·91							
1878	31,303	18·78							
1879	31,801	18·52							
Average	-	19·22							19·27

If we compare the death-rates of Massachusetts with those of foreign countries, where registration of vital statistics is thorough, it may be seen that our State compares favorably with others.

AVERAGE ANNUAL MORTALITY-RATES in Several Countries, 1853-77.

COUNTRIES.	In the 20 years, 1853-72.	1873.	1874.	1875.	1876.	1877.
Massachusetts	19·1	21·6	19·8	21·2	20·1	18·9
England and Wales . . .	22·4	21·1	22·3	22·8	21·0	20·4
Denmark	20·3	18·6	19·9	21·0	20·0	18·7
Sweden	20·4	17·2	20·3	20·2	19·5	18·5
Austria	31·9	38·5	31·3	29·7	29·4	31·1
Prussia	27·2	28·0	25·9	26·4	25·4	25·5
The Netherlands . . .	25·7	24·0	22·6	25·4	23·3	22·0
France	24·4	23·3	21·4	23·1	22·7	21·7

County Death-Rates.—The death-rates in the census years, and the numbers of deaths in all the years, given in the next table, furnish a convenient means of comparing the mortality of the various counties for the several years since 1865. It may be seen that Dukes, Nantucket, Bristol, and Hampden are the only counties not showing a decreased number of deaths in 1879, as compared with the last census year.

Deaths, 1865-79, and Death-Rates in Census Years, by Counties.*

	Barnstable.	Bristol.	Berkshire.	Dukes and Nantucket.	Fessix.	Franklin.	Hampden.	Hampshire.	Middlesex.	Norfolk.	Plymouth.	Suffolk.	Worcester.	Whole State.
Population, 1865	34,610	56,914	89,395	8,918	171,034	31,310	64,570	39,269	220,384	116,206	63,107	208,214	162,912	1,267,031
" 1870	32,744	64,827	102,886	7,910	200,843	32,635	78,409	44,388	244,353	89,443	65,365	270,802	192,716	1,457,351
" 1875	32,144	68,270	131,087	7,272	223,342	33,636	94,304	44,821	284,112	88,321	69,362	364,886	210,295	1,651,912
Deaths, 1865	617	1,019	1,829	198	3,716	577	1,230	822	4,223	2,222	1,390	4,856	3,453	26,152
Death-rate, 1865.	17.8	17.9	20.4	22.1	21.7	18.4	21.7	19.0	20.9	19.1	19.1	22.0	23.3	21.2
Deaths, 1866	497	918	1,609	154	3,136	500	1,228	665	4,362	913	1,023	4,675	2,957	23,637
" 1867	475	887	1,576	142	2,863	473	1,207	579	4,167	828	915	4,717	2,913	22,772
" 1868	493	970	1,896	146	3,189	472	1,419	625	4,827	1,442	1,150	5,824	3,150	25,603
" 1869	539	963	1,767	150	3,480	526	1,376	652	4,923	1,555	1,094	5,865	3,164	26,054
" 1870	476	996	1,862	163	3,496	554	1,490	760	5,169	1,399	1,062	6,428	3,465	27,329
Death-rate, 1870.	14.5	15.4	18.1	20.6	17.4	16.9	19.1	17.1	18.9	15.6	16.2	23.7	17.9	18.7
Deaths, 1871	518	843	1,689	159	3,829	590	1,637	688	5,434	1,412	1,108	6,231	3,775	27,943
" 1872	575	1,234	2,519	170	4,640	538	2,031	933	6,528	1,688	1,224	8,490	4,449	35,019
" 1873	576	1,111	2,912	161	4,429	568	1,915	803	6,539	1,677	1,235	8,324	3,639	33,912
" 1874	543	1,195	2,507	176	4,055	601	1,761	988	5,684	1,492	1,127	8,188	3,567	31,887
" 1875	615	1,289	2,713	154	4,704	669	1,922	917	5,932	1,533	1,292	9,378	3,865	34,978
Death-rate, 1875.	19.1	18.9	20.7	21.2	19.8	20.4	21.1	19.8	20.9	17.4	18.6	25.7	18.4	21.2
Deaths, 1876	587	1,117	2,645	171	4,698	518	1,794	802	5,636	1,489	1,330	8,626	3,773	33,186
" 1877	530	1,085	2,602	231	4,527	511	1,638	761	5,396	1,480	1,171	7,636	3,768	31,342
" 1878	599	978	2,655	215	4,383	488	1,698	740	5,499	1,383	1,103	8,064	3,498	31,303
" 1879	565	1,034	2,768	174	4,701	558	1,951	779	5,283	1,496	1,188	7,778	3,526	31,801

* In 1868 Roxbury was annexed to Suffolk County; in 1870, Dorchester; in 1874, West Roxbury, and also Brighton and Charlestown from Middlesex County.

DEATH-RATES and DEATHS in Six Geographical Divisions.*

COUNTIES,	Population. 1875.	Death-Rate. 1860.	Death-Rate. 1865.	Death-Rate. 1870.	Death-Rate. 1875.	Deaths. 1875.	Deaths. 1876.	Deaths. 1877.	Deaths. 1878.	Deaths. 1879.
1. Metropolitan (City of Boston) .	341,919	24.7	23.6	24.3	26.1	8,925	8,196	7,284	7,677	7,406
2. North-eastern (Essex and parts of Suffolk and Middlesex) .	502,101	18.1	20.4	18.3	21.0	10,537	10,234	9,812	9,804	9,915
3. South-eastern (Dukes and Nan- tucket, Barnstable, Plymouth, Bristol, and Norfolk) .	328,186	16.2	20.0	16.6	19.2	6,307	6,222	6,017	5,955	6,191
4. Midland (Worcester and part of Middlesex) .	238,615	17.6	20.7	17.8	18.5	4,412	4,303	4,231	3,963	3,967
5. Valley (Franklin, Hampden, and Hampshire) .	172,821	17.2	19.4	18.1	20.3	3,508	3,114	2,913	2,926	3,288
6. Western (Berkshire) .	68,270	14.5	17.9	15.4	18.9	1,289	1,117	1,085	978	1,034
Whole State.	1,651,912	18.7	20.6	18.7	21.2	34,978	33,186	31,342	31,303	31,801

* The towns of Ashby, Townsend, Upperville, Shirley, Groton, Dunstable, Tyngsborough, Westford, Littleton, Boxborough, Acton, Stow, Marlborough, and Hopkinton are included in the *Midland Division*; the remaining towns of Middlesex County are placed in the *North-eastern Division*.

Besides the comparison by counties, it has been customary since 1858 to tabulate the deaths in the State according to six geographic divisions, which represented quite well the diversities of pursuit or density of population and habits of the people before the development of our manufacturing industries. They are intended to represent the most crowded part of the State at one extreme, and the most rural districts at the other; they show (see preceding page) in a general way the more favorable influence of fresh air upon health and longevity.

City Death-Rates.—Corresponding with the tables of births and marriages, the next gives the death-rates in the cities containing over 15,000 inhabitants (by census of 1875) in the State; for subsequent years, the numbers of deaths are given. The destructiveness to life of the crowding, bad air, and poverty, incident to city life, with their excess of productiveness and consequent greater mortality, are clearly shown.

Death-Rates and Deaths in Populous Places.

CITIES.	Population by Census of 1875.	DEATH-RATES.			DEATHS.				
		1865.	1870.	1875.	1875.	1876.	1877.	1878.	1879.
Boston . . .	341,919	23·6	24·3	26·2	8,925	8,196	7,284	7,677	7,406
Lowell . . .	49,688	18·6	23·2	20·5	1,021	1,147	1,029	1,088	1,006
Worcester . . .	49,317	24·9	21·8	20·9	1,030	1,046	1,063	944	914
Cambridge . . .	47,838	18·9	20·4	23·3	1,115	964	972	964	896
Fall River . . .	45,340	21·5	20·8	24·0	1,088	1,025	1,058	1,054	1,117
Lawrence . . .	34,916	25·7	17·2	26·0	906	796	831	832	799
Lynn . . .	32,600	22·1	17·2	19·2	627	661	656	627	632
Springfield . . .	31,053	16·0	18·5	20·9	650	609	498	482	593
Salem . . .	25,958	21·1	20·6	22·9	595	617	553	513	524
New Bedford . . .	25,895	21·2	17·8	21·7	562	512	525	561	661
Somerville . . .	21,808	20·4	17·6	22·9	500	444	441	367	397
Chelsea . . .	20,737	20·8	16·8	20·1	417	398	318	350	321
Taunton . . .	20,445	21·5	19·8	19·8	404	385	426	378	334
Gloucester . . .	16,754	24·5	23·2	28·4	477*	622†	416‡	345§	1,541
Holyoke . . .	16,260	21·4	27·2	29·3	476¶	405	315	389	483
Newton . . .	16,105	13·9	10·1	13·9	224	270	227	248	234
The 16 cities . . .	796,693	22·1	21·6	23·9	19,017	18,097	16,612	16,819	16,858
The rest of the State . . .	855,219	19·8	16·6	18·7	15,961	15,089	14,730	14,484	14,943
The whole State	1,651,912	20·6	18·7	21·2	31,978	33,186	31,342	31,303	31,801

* Including 123 lost at sea.

† Including 175 lost at sea.

‡ Including 41 lost at sea.

§ Including 58 lost at sea.

¶ Including 231 lost at sea.

|| Including 71 deaths by fire.

In 1865 the sixteen cities had a population of 472,799 against 794,232 in the rest of the State; in 1870, 619,061 against 838,290; and in 1875, 796,693 against 855,219. In 1865 the deaths were 10,430 against 15,722 in the rest of the State; in 1870, 13,385 against 13,944; and in 1879, 16,858 against 14,943. The death-rates have also changed, as may be seen from the table, in a corresponding manner as the population has collected more in the large cities.

Seasons. — By the following table it may be seen that the order of mortality in the various months for the year is as follows: June, November, October, September, May, December, February, July, April, March, August, January.

INFLUENCE OF SEASONS on Deaths. — 1879.

	Deaths registered in each Month.	Deaths registered in each Quarter.	Quarterly Percentage of total Mortality.	Annual Death-Rate per 1,000 Living.
January	3,185			
February	2,696	8,720	27.42	20.31
March	2,839			
April	2,766			
May	2,492	7,392	23.24	17.22
June	2,134			
July	2,704			
August	3,150	8,338	26.22	19.42
September	2,484			
October	2,443			
November	2,367	7,351	23.12	17.12
December	2,541			
The year	31,801	31,801	100.00	18.52

In the next table the first season of the year is shown to have been the most fatal, contrary to the usual rule, which assigns the leading place to the third season. Similarly, the second season, of moderate weather, usually the least fatal, exchanges places with the fourth season, though the difference in the figures is but slight.

PERCENTAGES OF DEATHS, by Quarters. — Ten Years.

		PERCENTAGE OF DEATHS FOR QUARTER ENDING WITH			
		March.	June.	September.	December.
1870	.	22.2	21.5	32.2	24.1
1871	.	23.4	23.0	30.5	23.1
1872	.	22.1	21.9	33.3	22.7
1873	.	24.3	22.2	30.8	22.7
1874	.	22.6	23.4	29.6	24.4
1875	.	24.7	22.5	29.4	23.4
1876	.	25.6	22.3	29.4	22.7
1877	.	24.4	22.2	29.7	23.7
1878	.	23.8	22.2	28.5	25.5
1879	.	27.4	23.3	26.2	23.1
Average	.	24.0	22.4	30.0	23.5

Weather-Record.—A more extended notice of the meteorology for the year will be given at the end of the observations with regard to causes of death. In connection with the preceding table, however, it may be interesting to observe the monthly means of temperature for 1879 as compared with those of the previous years, and with the decennial mean just preceding. The mean temperature for the year is lower than in 1877 or 1878, and a trifle higher than for the decennial period.

MEAN MONTHLY TEMPERATURE. (Fahrenheit.)

MONTHS.	CAMBRIDGE.				AMHERST.			
	1879.	1878.	1877.	Ten Years. 1868-77.	1879.	1878.	1877.	Ten Years. 1868-77.
January	22.0	25.69	21.4	25.3	21.6	25.29	20.0	24.2
February	22.6	27.91	30.7	25.2	22.4	27.14	30.8	24.5
March	32.7	38.56	33.8	31.4	33.0	39.24	33.3	31.4
April	42.3	48.55	44.8	43.2	43.2	52.17	47.8	44.3
May	62.0	57.39	56.6	55.6	60.6	57.38	58.5	55.0
June	66.0	66.56	69.2	66.6	62.3	64.73	67.8	67.3
July	71.2	74.75	72.4	72.3	71.0	73.33	71.1	71.1
August	69.2	69.39	71.9	69.6	67.2	68.63	71.3	69.1
September	60.2	62.93	63.7	60.9	59.0	63.20	63.3	60.0
October	54.6	54.41	50.3	49.8	56.0	54.43	50.5	48.4
November	37.9	38.79	42.2	37.4	37.4	39.11	51.9	37.3
December	32.5	28.65	33.2	27.5	30.8	28.95	33.1	26.2
Average	47.8	49.46	49.2	47.1	47.4	49.47	49.1	46.6

Sex.—In 1879 the deaths of females exceeded the deaths of males by 514; 15,628 of the latter having been reported, and 16,142 of the former (unknown, 31). This proportion, 96.8 to 100, is chiefly due to the excess of females over males in the population (857,529 to 794,383, showing an excess of 63,146 in 1875; in 1865 the excess was 63,011, and in 1855 it was 32,301). In the three State-census years, 1855, 1865, and 1875, the ratio of females to males in the population was respectively 105.87, 110.46, and 107.95.

By the following table the relative proportions of the sexes in the mortality returns may be seen to vary considerably at different periods. The progressively increasing ratio of deaths of females since 1873, the year of beginning financial depression, is very marked. It is difficult to account for it except on the ground of a disproportionate emigration of males from the State. At least, no cause is known to us which would be likely to be productive of a relatively increasing mortality among females in that time. The deaths reported of unknown sex are not sufficient or variable enough to account for the fact, as is shown by the following list of deaths reported of unknown sex from 1865 to 1879 inclusive: 43, 38, 53, 37, 46, 32, 27, 46, 28, 40, 30, 32, 21, 33, 31. No change in the observance of the registration laws is known to have tended toward such a result.

The death-rates of males, as given in the State-census years, show a greater proportional mortality among them than for females.

MORTALITY of Males and Females compared.

	Deaths of Males.	Deaths of Females.	Males to 100 Females.	Death-Rate of Males.	Death-Rate of Females.
1852-61	104,875	106,020	98.9		
1862-65 (4 years of war)	54,407	50,994	106.7		
1865	13,085	13,024	100.5	21.7	19.6
1866	11,601	12,003	96.6		
1867	11,350	11,369	99.8		
1868	12,871	12,695	101.4		
1869	12,777	13,231	96.6		
1870	13,699	13,598	100.7		
1871	13,985	13,931	100.4		
1872	17,717	17,256	102.7		
1873	17,242	16,642	103.6		
1874	15,912	15,935	99.9		
1875	17,329	17,619	98.4	21.8	20.5
1876	16,485	16,669	98.8		
1877	15,427	15,894	97.1		
1878	15,284	15,986	95.6		
1879	15,628	16,142	96.8		

Age.—The statistics of the relation of age to mortality, for the year, are as follows:—

DEATHS at Different Ages.—1879.

		Under 1 Year.	Under 5 Years.	20 to 30.	All others.*	Totals.
I. Deaths .	{ Males . . .	3,213	5,390	1,253	8,985	15,628
	Females . . .	2,611	4,740	1,703	9,699	16,142
	Totals . . .	5,824	10,130	2,956	18,684	31,770
	Unknown . . .	31	31	—	—	31
II. Percentage for each sex .	{ Males . . .	20·56	34·49	8·02	57·49	—
	Females . . .	16·18	29·36	10·55	60·09	—
III. Percentages for each period of life		18·40	31·95	9·29	58·76	—
IV. Females to 1,000 males . . .		812	879	1,359	1,079	—

It may be seen that the deaths of male infants under one year of age exceed those of females by a very large percentage, which is less marked if we compare the mortality of the first five years of life. Between the ages of 20 and 30 many more women die than men, as is found to be the case also at the later ages taken together.

Of the total mortality, a trifle under one-fifth was of infants under one year of age; a little over one-third was of children under five.

By comparing the last ten years' results, it is found that the infant proportion has been quite small for the past three years, a fact which is partially compensated by the smaller number of births in those years.

* Including 305 males and 45 females whose ages were not reported.

DEATHS at Different Ages.—*Percentages.*—Ten Years.

		Under 1 Year.	Under 5 Years.	20 to 30.	All others.
1870	22 71	36·12	10·56	53 32	
1871	21·46	34·00	10·57	55·43	
1872	23·96	38·75	10·76	50·49	
1873	23·33	36·49	10·46	53·05	
1874	23·49	36·58	9·88	53·54	
1875	22·05	36·76	9·33	53·91	
1876	20·19	36·19	9·07	54·74	
1877	20·24	35·64	9·47	54·89	
1878	19·69	34·50	9·05	56·45	
1879	18·41	31·95	9·29	58·76	
Average	21·55	35·70	9·84	54·46	

The aggregate deaths at different ages and the percentages for ten years, given in the following table, may be compared with the similar table for 1879, in the preceding page:—

Deaths at Different Ages.—Ten Years—1870–79.

		Under 1 Year.	Under 5 Years.	20 to 30.	All others.	Totals.
I. Deaths . . .	{ Males Females Totals Unknown,	37,791 30,694 68,485 306	60,961 52,635 113,596 314	14,040 17,265 31,305 1	83,707 89,772 173,479 5	158,708 159,672 318,380 320
II. Percentages for each sex . . .	{ Males Females	23·81 19·22	38·41 32·97	8·85 10·81	52·74 56·22	— —
III. Percentages for each period of life		21·51	35·68	9·83	54·49	—
IV. Females to 1,000 males		812	863	1,230	1,072	1,006

By a comparison of deaths of infants under one year of age with births, for a period of ten years, it may be seen that there is actually a great reduction in the former in the last three years, as is shown in the following table:—

INFANT MORTALITY in Massachusetts.—*Ten Years—1870-79.*

			Births.	Deaths under One Year.	Deaths under One Year to 100 Births.
1870	.	.	38,259	6,206	16·22
1871	.	.	39,971	5,996	15·07
1872	.	.	43,235	8,390	19·41
1873	.	.	44,481	7,911	17·78
1874	.	.	45,631	7,489	16·41
1875	.	.	43,996	7,712	17·53
1876	.	.	42,149	6,700	15·89
1877	.	.	41,850	6,343	15·15
1878	.	.	41,238	6,189	15·01
1879	.	.	40,295	5,955	14·52
Average.	.	.	-	-	16·30

The favorable condition of the public health in the last year is shown, as compared with previous years, by the following table:—

DEATHS AND DEATH-RATES per 1,000 Living at Specified Ages.—1865-1879.

	All Ages.	Under 1	Under 5	1 to 5	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 & over.	Unknown.
Deaths in 1865 .	26,152	4,869	9,191	1,383	651	1,128	2,837	2,168	1,687	1,949	1,880	1,399	185
<i>Death-rates in 1865</i>	20 64	20 52	68 62	9 63	5 14	9 63	12 58	11 68	11 86	17 49	32 90	70 48	-
Deaths in 1866 .	22,637	4,699	7,877	950	559	932	2,533	2,112	1,670	1,643	1,935	1,906	1,386
" in 1867 .	22,772	4,763	7,956	964	475	873	2,425	1,899	1,582	1,543	1,731	1,777	1,435
" in 1868 .	25,603	5,421	9,367	1,144	538	851	2,453	2,014	1,775	1,660	2,035	2,103	1,549
" in 1869 .	26,054	5,368	9,224	1,078	570	937	2,609	2,097	1,803	1,715	2,101	2,095	1,643
" in 1870 .	27,329	6,206	9,873	825	556	1,027	2,883	2,275	1,947	1,837	2,058	2,196	1,654
" in 1871 .	27,943	5,996	9,502	937	590	1,071	2,953	2,349	1,997	1,924	2,234	2,341	1,764
" in 1872 .	35,019	8,390	13,573	1,275	714	1,403	3,767	2,714	2,262	2,141	2,499	2,596	1,866
" in 1873 .	33,912	7,911	12,374	1,328	737	1,341	3,549	2,811	2,220	2,219	2,634	2,607	1,812
" in 1874 .	31,887	7,489	11,664	1,260	633	1,170	3,150	2,492	2,157	2,193	2,518	2,602	1,877
" in 1875 .	34,978	7,712	12,823	1,603	706	1,287	3,245	2,743	2,361	2,336	2,760	2,959	1,966
<i>Death-rates in 1875</i>	21 17	226 56	73 96	9 77	4 72	7 73	10 49	11 30	12 97	18 29	34 79	71 11	176 41
Deaths in 1876 .	33,186	6,700	11,974	1,885	688	1,118	3,001	2,504	2,227	2,196	2,657	2,713	1,947
" in 1877 .	31,342	6,343	11,145	1,608	650	1,183	2,971	2,403	2,059	2,050	2,526	2,748	1,873
" in 1878 .	31,303	6,189	10,821	1,468	649	1,051	2,831	2,410	2,070	2,188	2,553	2,976	2,120
" in 1879 .	31,801	5,855	10,161	1,412	616	1,076	2,956	2,544	2,294	2,312	2,827	3,100	2,153

DEATHS.—Table of Average Ages, by Counties, of those deceased in Massachusetts whose Deaths were registered in the Fifteen Years, 1865–79.

YEARS.	STATE.	Barnstable	Berkshire	Bristol	Dukes and Norfolk	Hampshire	Han-	Middlesex	Norfolk	Plymouth	Suffolk	Worcester
		Franklin	Hassett	Hassett	Hampshire	Hampshire	Hampshire	Hampshire	Hampshire	Hampshire	Hampshire	Hampshire
1865	• • • • •	28·68	35·07	31·95	30·36	37·36	27·27	37·97	25·75	30·61	29·72	29·30
1866	• • • • •	30·92	35·97	35·36	33·32	49·10	30·00	38·07	29·21	35·01	30·70	31·27
1867	• • • • •	30·05	38·99	33·18	32·25	49·17	30·87	43·57	28·05	37·85	28·94	29·79
1868	• • • • •	29·92	41·70	31·51	30·81	53·13	30·37	39·31	25·72	37·69	29·74	33·81
1869	• • • • •	30·40	41·99	38·36	32·50	54·65	29·60	40·89	28·97	40·07	28·14	30·45
1870	• • • • •	30·25	41·89	33·72	34·34	48·73	30·93	39·67	28·67	35·41	28·95	33·95
1871	• • • • •	31·45	42·51	33·89	31·45	53·69	30·74	42·70	28·29	36·78	30·44	34·20
1872	• • • • •	27·65	38·55	31·05	28·96	51·95	29·00	39·34	23·02	32·99	25·78	31·47
1873	• • • • •	27·96	38·18	34·61	26·85	54·00	29·97	39·79	25·72	33·59	28·61	32·93
1874	• • • • •	29·83	40·26	32·04	29·96	52·08	31·59	35·99	26·35	35·32	28·02	33·33
1875	• • • • •	29·81	40·77	34·66	30·90	46·95	29·54	40·00	27·36	34·31	28·43	35·02
1876	• • • • •	31·45	42·51	33·89	34·45	52·88	30·74	42·70	28·29	36·78	30·44	34·20
1877	• • • • •	30·29	43·80	34·05	30·00	47·11	29·35	40·68	29·00	37·48	28·28	32·13
1878	• • • • •	31·62	41·75	35·82	30·64	47·70	31·17	44·94	28·03	39·01	30·65	36·98
1879	• • • • •	32·84	45·27	39·62	29·42	57·35	33·05	45·86	29·64	38·99	30·84	37·96
15 years	• • • • •	30·00	40·61	34·25	31·28	50·39	30·28	40·77	27·47	36·13	29·18	33·12

The preceding table of average ages at death for each county in each of the years from 1865 to 1879, and the average age for the fourteen years obtained by dividing the aggregate ages by the aggregate number of deaths for that period, will be found of interest.

In the smaller counties especially, and in all of them to a greater or less degree, there would naturally be a considerable variation in the average age at death from year to year. By taking a considerable space of time, however, any error from that source is eliminated. We find the average age at death in the two sparsely populated islands, Dukes and Nantucket, to be the highest. Franklin County, largely of farms and small towns, comes next, followed by the sparsely populated Cape county, Barnstable. Plymouth, Hampshire, Berkshire, Norfolk, Worcester, Bristol, and Essex, in order, are also above the average for the State (30), while Middlesex, Hampden, and Suffolk Counties show, so far as the returns are concerned, the least favorable indications of longevity. The order corresponds pretty closely with the preponderance of agriculture in the long-lived, and of manufacturing and city life in the short-lived counties.

The following-named 16 persons, 4 males and 12 females, who died during the year, were said to have reached the uncommon age of 100 years. Eight were native-born, 4 in Ireland, 2 in Canada, 1 in England, and 1 unknown. No careful investigation has been made to ascertain how far these reported cases of extreme longevity correspond with the actual facts in the case.

AGED One Hundred Years.—Died in 1879.

Date of Death.	NAME.	AGE.		Place of Death.	Birthplace.	Whether previously Married or Single.
		Yrs.	Mos.			
1879.						
January 3	Grace Holman	.	.	Boston	.	.
“ 9	Philip McGuire	.	.	“	.	“
March 5	Katie Reed (mulatto)	.	.	Dedham	.	“
“ 14	Polly Kempton (m. n. Benson)	.	.	Uxbridge	.	“
April 14	Windsor Howe	.	.	Bolton	.	“
May 2	Ellen Leonard (m. n. Sheehan)	.	.	Northbridge	.	“
“ 8	Ruth B. Southworth	.	.	Plymouth	.	“
“ 25	Mary Trowbridge	.	.	Boston	.	“
“ 25	François H. Mana	.	.	Fall River	.	“
“ 29	Julia McCarthy	.	.	“	.	“
August 21	Samuel Curtis	.	.	Marshfield	.	“
November 6	Catharine Driscoll (m. n. Barry)	.	.	Boston	.	“
“ 8	Sarah Page (m. n. Hamlin)	.	.	“	.	“
December 4	Mary Bisault	.	.	Millbury	.	“
“ 10	Deborah Kimball	.	.	Topsfield	.	“
“ 27	Mary Hewes (m. n. Lawson)	.	.	Boston	.	“

Nativity of Decedents.—The nativity of those who died during the year, and for a period of years, is a fact of less and less importance as the heterogeneous elements in our population become less and less prominent, and a certain amount of error is unavoidable from a perhaps natural wish to claim American nativity on the part of a certain number to whom the title does not fairly belong. Still the following two tables of deaths according to nativity will be of interest:—

NATIVITY of those whose Deaths were registered in 1879.

COUNTIES.	NATIVE-BORN.		FOREIGN-BORN.		NATIVITY NOT STATED.		TOTALS.	
	Numbers.	Per-centages.	Numbers.	Per-centages.	Numbers.	Per-centages.	Numbers.	Per-centages.
Barnstable .	532	94.16	26	4.60	7	1.24	565	100.00
Berkshire .	800	77.37	212	20.50	22	2.13	1,034	100.00
Bristol .	2,187	79.01	548	19.80	33	1.19	2,768	100.00
Dukes and Nantucket	163	93.68	11	6.32	—	—	174	100.00
Essex . .	3,671	78.09	788	16.76	242*	5.15	4,701	100.00
Franklin .	501	89.79	45	8.06	12	2.15	558	100.00
Hampden .	1,479	75.81	427	21.88	45	2.31	1,951	100.00
Hampshire .	650	83.44	116	14.89	13	1.67	779	100.00
Middlesex .	3,962	75.00	1,191	22.54	130	2.46	5,283	100.00
Norfolk .	1,242	83.02	242	16.18	12	.80	1,496	100.00
Plymouth .	1,065	89.65	107	9.01	16	1.34	1,188	100.00
Suffolk .	5,567	71.57	2,170	27.90	41	.53	7,778	100.00
Worcester .	2,837	80.46	653	18.52	36	1.02	3,526	100.00
The State	24,656	77.53	6,536	20.55	609	1.92	31,801	100.00

* Chiefly Gloucester fishermen lost at sea.

NATIVITY of Persons deceased in Massachusetts.—Twenty-six Years.

	Total Deaths.*	NATIVE-BORN.		FOREIGN-BORN.	
		Numbers.	Percent- ages.	Numbers.	Percent- ages.
1854-59 (annual mean)	.	20,996	83·88	3,246	16·12
1860-65 (annual mean)	.	25,459	84·92	3,772	15·08
1866-70 (annual mean)	.	25,079	80·82	4,745	19·18
1871	27,943	78·63	5,951	21·37
1872	35,019	79·67	7,100	20·33
1873	33,912	81·57	6,198	18·43
1874	31,887	80·82	6,672	19·18
1875	34,978	79·80	7,002	20·20
1876	33,186	80·47	6,399	19·53
1877	31,342	80·41	6,057	19·59
1878	31,303	80·24	6,115	19·76
1879	31,801	77·87	6,536	22·13

* Including those whose nativity was not recorded. In the calculations of percentages, the ratios are not given to the *total* reported deaths, but only to the total of those cases where the nativity was stated.

CAUSES OF DEATH.

Of the 31,801 deaths reported in Massachusetts in 1879, the cause of death was not specified in 775 cases, leaving 31,026 in which the facts required by the law were ascertained. The number of returns not specifying the cause of death in 1879, as indicated in Table IX., shows a great improvement over previous years. From 1868 to 1878 the certificates incomplete in that respect numbered 1,464, 1,485, 1,350, 1,290, 1,457, 1,302, 1,138, 1,017, 999, 910, and 837. Of the 775 in 1879, the sudden deaths were 18; 19 were from inflammation; 81 from hemorrhage; tumors were returned as the cause of 63; and 579 were unknown, and without any cause stated in the returns. Nearly two-thirds of the latter, namely 348, were of infants under five years of age.

As compared with the population, the deaths from unspecified causes in 1879 were .441 per 1,000, or considerably less than half as many as in 1868 (1.062 per 1,000).

The 31,801 deaths, according to the usual arrangement, are divided as follows:—

*Causes of Death * by Classes.—1879.*

CLASSES.	Deaths, 1879.	Percentages.	Deaths to 1,000 of Estimated Population.
Zymotic diseases	7,228	22.73	4.21
Constitutional diseases	7,749	24.37	4.51
Local diseases	11,530	36.26	6.72
Developmental diseases	3,135	9.85	1.82
Violent deaths	1,384	4.35	.81
Unspecified	775	2.44	.45
Totals	31,801	100.00	18.52

* Excluding 1,261 still-born.

There is a further, though less marked, reduction in the class of zymotic diseases, 7,666 having been reported in 1878. The number of deaths from constitutional diseases was 61 more in 1879 than in 1878, while the local diseases showed an excess of 981 deaths over the previous year, and developmental diseases 232 less.

From a comparison of ten years in the following table, in which deaths from unspecified causes are not included, it may be seen that the deaths from the zymotic diseases—those commonly considered as most indicative of the sanitary condition of a country—were in 1879 fewer in proportion to the others than in any of the other years; that the constitutional diseases were proportionately more fatal than the average; that the local diseases caused a very much greater mortality than in any other of the ten years; that the developmental diseases for the last four years have held a position much lower than the average; and that violent deaths occupied the average age:—

Percentage of Causes of Death by Classes. — Ten Years.

YEARS.	CLASSES.				
	Zymotic.	Constitutional.	Local.	Development.	Violent Deaths.
1870	25·6	26·6	28·1	15·6	4·1
1871	23·3	25·9	29·1	17·1	4·6
1872	30·9	23·1	27·7	14·6	3·7
1873	28·7	23·8	27·9	15·2	4·4
1874	25·7	23·8	30·4	15·7	4·4
1875	28·6	24·3	31·8	11·2	4·1
1876	29·4	23·9	31·3	11·0	4·4
1877	28·6	25·1	31·7	10·6	4·0
1878	25·2	25·2	34·7	11·0	3·9
1879	23·3	25·0	37·1	10·1	4·5
Average	26·9	24·6	30·9	13·1	4·5

Studying the various classes more particularly, the relations of the most destructive *zymotic diseases* for the past ten years are shown in the following table:—

Mortality from Prominent Zymotic Diseases.—Ten Years.

YEARS.	DISEASES.										Total.
	Dysentery.	Typhoid Fever.	Whooping-Cough.	Croup.	Diphtheria.	Measles.	Scarlatina.	Cholera Infantum.	Small-pox.		
1870 .	471	1,333	330	434	242	269	683	1,914	131	5,807	
1871 .	389	1,116	243	473	274	131	867	1,718	295	5,506	
1872 .	564	1,703	363	480	273	428	1,377	3,254	1,029	9,471	
1873 .	435	1,406	264	435	310	180	1,472	2,553	668	7,723	
1874 .	366	1,147	449	411	502	161	1,382	2,322	26	6,766	
1875 .	437	1,059	242	680	1,200	233	1,684	2,606	34	8,175	
1876 .	417	881	192	684	2,610	47	1,222	2,087	31	8,171	
1877 .	580	814	369	544	2,634	135	467	1,927	26	7,496	
1878 .	602	679	400	583	1,934	305	404	1,573	2	6,482	
1879 .	372	637	302	559	1,734	19	850	1,349	8	5,830	

Dysentery and whooping-cough were less fatal than usual ; diphtheria and cholera infantum remain at the head of the list, as for the previous three years, but with a considerable annual decrease since 1876 ; the mortality from measles was extremely low ; typhoid fever, dysentery, measles, and cholera infantum showed very much the lowest death-rates obtaining in the decennial period, while the total deaths from the nine causes number 1,313 less than the average for ten years, and only 23 more than in 1870, with a population, probably, at least 260,000 greater.

Of the *constitutional diseases*, consumption and cancer are by far the most fatal. The improvement shown in the death-rate from the former is probably due, in part, to more accurate registration. With cancer, on the contrary, a great number of cases affecting internal organs have been formerly overlooked, and are now more correctly reported.

The number of deaths and the death-rates for the past twenty-three years furnish a means of comparison for these two frequent and almost inevitably fatal diseases.

Deaths and Death-Rates per 10,000 from Cancer and Consumption.

YEARS.	CANCER.		CONSUMPTION.	
	Deaths.	Death-Rates.	Deaths.	Death-Rates.
1857	242	2·07	4,625	39·50
1858	289	2·43	4,574	38·42
1859	306	2·53	4,704	38·85
1860	335	2·72	4,557	37·02
1861	336	2·71	4,552	36·77
1862	319	2·56	4,269	34·28
1863	324	2·59	4,667	37·26
1864	330	2·62	4,773	37·89
1865	375	2·96	4,661	36·79
1866	416	3·19	4,600	35·33
1867	395	2·95	4,362	32·55
1868	445	3·23	4,437	32·20
1869	492	3·47	4,659	32·88
1870	516	3·54	5,003	34·33
1871	551	3·69	5,070	33·93
1872	542	3·54	5,556	36·26
1873	611	3·89	5,556	35·36
1874	585	3·63	5,284	32·80
1875	593	3·59	5,738	34·73
1876	657	3·98	5,327	32·35
1877	646	3·90	5,457	32·93
1878	807	4·84	5,334	32·00
1879	862	5·02	5,223	30·42

Of the principal *local diseases*, the increase in those of the central nervous system, as shown in the next table, is very striking.

The increase in deaths from heart diseases is due probably in part to the same cause which increases nervous disorders, in part to more accurate registration, and also partly to an increase in rheumatism, to which it is so often a consequent affection.

The mortality from bronchitis and pneumonia of the *pulmonary diseases* has increased at a more rapid rate than the population.

The excessively greater numbers of deaths from *peritonitis* and *Bright's disease*, from year to year, are to a certain extent,

but not wholly, accounted for by more accurate registration, by which cases of "dropsy" are placed under the head of Bright's disease and the other causes to which the dropsy is due; and "consumption" is not used to cover so wide a margin of error as formerly.

In the quinquennial period (1857-1861) "dropsy" caused an average of 485 deaths; in the second period, 491; in the third, 473; in the fourth, 510; in 1877, only 412; in 1878, still less, 370; and in 1879, 380. A certain number of these cases should properly belong under the head of scarlet fever, Bright's disease, peritonitis, &c.

Mortality from Principal Local Diseases. — Ten Years.

		DISEASES.									
		Apoplexy.	Paralysis.	Insanity.	Convulsions.	Heart Diseases.	Bronchitis.	Pleurisy.	Pneumonia.	Peritonitis.	Bright's Disease.
1870	.	394	630	103	527	978	259	75	1,718	86	140
1871	.	390	714	89	522	1,149	272	90	1,858	69	199
1872	.	409	791	103	658	1,218	287	81	2,295	100	223
1873	.	431	858	88	629	1,252	328	90	2,097	102	271
1874	.	433	775	100	595	1,293	395	103	2,386	129	299
1875	.	460	896	118	607	1,355	433	103	2,940	155	293
1876	.	507	826	146	597	1,370	428	86	2,447	123	308
1877	.	544	873	112	568	1,391	397	82	1,972	126	329
1878	.	562	895	152	542	1,509	548	80	2,171	164	383
1879	.	663	932	118	589	1,608	690	90	2,647	226	435

Of the *developmental diseases*, probably a large part of the deaths referred to "teething" are of obscure origin, or due to digestive disorders. An improvement is shown.

The mortality from childbirth (including the following two columns) includes also a number of deaths from puerperal fever, and is less than in former years.

The deaths indicated abortion, still-born, infantile, premature, &c., are largely due to accidents; but some of them indicate criminal acts, and are of uncertain registration.

The people living long enough to die of old age do not vary much in numbers in the last few years.

Mortality from Chief Developmental Diseases. — Ten Years.

YEARS.	DISEASES.					
	Teething.	Still-born, Infantile, Premature, &c.	Childbirth.	Abortion.	Puerp. Con- vulsions.	Old Age.
1870	308	1,756	252	8	17	1,444
1871	260	2,131	229	1	16	1,554
1872	367	2,159	267	3	15	1,664
1873	348	2,020	301	2	28	1,672
1874	286	2,189	293	7	34	1,549
1875	325	2,095	298	10	19	1,732
1876	273	1,860	276	20	20	1,661
1877	259	1,773	198	10	29	1,586
1878	226	1,839	214	10	28	1,596
1879	151	1,753	174	2	30	1,597

The *violent deaths* for ten years are as shown in the following table; the total for the year is, unlike the record of last year, considerably more than the average:—

Violent Deaths. — Ten Years.

YEARS.	Burns and Scalds.	Poison.	Railroad Accidents.	Drowning and Lost at Sea.	Freezing.	Heat.	Homicide.	Suicide.	Total.
1870	89	26	133	306	2	46	29	91	722
1871	101	29	161	346	2	10	25	122	796
1872	93	26	122	299	2	71	27	117	757
1873	88	30	126	432	2	22	26	117	843
1874	84	45	104	436	2	18	26	115	830
1875	171	23	102	330	12	11	23	159	881
1876	98	33	108	475	5	38	21	119	900
1877	83	38	137	260	2	10	20	163	713
1878	79	40	129	299	4	46	20	126	743
1879	88	38	119	461	3	11	17	161	898
Average .	97·4	32·8	124·1	364·4	3·6	28·3	23·7	129·0	803·3

The order of fatality of the principal twelve causes of death for the year are given in the following table. Consumption maintains, as usual, the first place. Pneumonia, as in 1874, 1875, and 1878, is second; in 1872, 1873, 1876, and 1877, it was third. Diphtheria maintains the same position as in the previous year, having declined from the second place in 1876 and

1877. Heart disease, too often a vague term, stands fourth, although only sixth to eighth in the preceding seven years. Old age is fifth, and holds a tolerably steady relation to the diseases, being, since 1872, fourth or fifth. Cholera infantum has steadily declined from the second place in 1872 and 1873, the third in 1874 and 1875, the fourth in 1876 and 1877, fifth in 1878, to sixth in 1879. Paralysis, as in 1877 and 1878, occupies the somewhat high place of seventh. Cancer, too, has risen from the tenth, eleventh, and twelfth places, to the eighth. Scarlet fever is higher than last year; in 1874 it was fifth, in 1872 sixth, and in 1875 and 1876 seventh. Cephalitis, bronchitis, and apoplexy are rather high.

Typhoid fever has shown the extraordinary decline from fourth place in 1872, sixth in 1873, seventh in 1874, eighth in 1875 and 1876, ninth in 1877 and 1878, to *thirteenth* in 1879. The other prominent causes of death appeared in the following order: Convulsions, 589; croup, 559; atrophy and debility, 574; tabes mesenterica, 511; infantile, premature, &c., 492; drowning and lost at sea, 461; hydrocephalus, 439; Bright's disease, 435; enteritis, 392; dropsy, 330; dysentery, 372; diarrhoea, 370; whooping-cough, 302; casualty, 300.

The twelve causes of death given in the table constituted 59.38 per cent of the total mortality of the State for the year.

Mortality from Twelve Prominent Causes.—1879.

1. Consumption	5,223	7. Paralysis	932
2. Pneumonia	2,647	8. Cancer	860
3. Diphtheria	1,734	9. Scarlet fever	850
4. Heart disease	1,608	10. Cephalitis	730
5. Old age	1,597	11. Bronchitis	690
6. Cholera infantum	1,349	12. Apoplexy	663

The next table gives the mortality in order, and the percentages to the mortality from all specified causes, from those five diseases which in each county proved most fatal during the year.

Consumption is first, except in the island counties, where it is second to old age, as last year.

Diphtheria was less fatal than last year in all the counties.

Pneumonia was second in nine counties, as compared with seven in 1878.

Scarlet fever appears in two counties among the five causes, although in nine last year.

Cholera infantum appears only in the fifth place, and in only three counties, showing a decided improvement over the previous year.

The losses at sea were mostly from the city of Gloucester.

The sixth, seventh, and eighth causes of death were, in Barnstable County, paralysis, apoplexy, cancer; in Berkshire, scarlet fever, diphtheria, cholera infantum; in Bristol, heart disease, old age, paralysis; in Dukes and Nantucket, cancer, paralysis, drowning; in Essex, cholera infantum, old age, paralysis; in Franklin, apoplexy, cancer, cholera infantum; in Hampden, cholera infantum, heart disease, apoplexy; in Hampshire, scarlet fever, cancer, cholera infantum; in Middlesex, cholera infantum, paralysis, cancer; in Norfolk, cancer, paralysis, cholera infantum; in Plymouth, paralysis, diphtheria, apoplexy; in Suffolk, old age, cancer, scarlet fever; in Worcester, cholera infantum, diphtheria, apoplexy.

The Most Destructive Five Causes of Death in each County.—1879.

COUNTIES.	1.	2.	3.	4.	5.
Barnstable	Consumption . 16.90	Diphtheria . 9.96	Old age .	9.25	Pneumonia . 6.23
Berkshire	Consumption . 13.41	Pneumonia . 11.88	Old age .	8.26	Heart disease . 6.23
Bristol	Consumption . 13.82	Pneumonia . 7.19	Scarlet fever .	6.80	Diphtheria . 4.46
Dukes and Nantucket,	Old age . 18.18	Consumption . 17.81	Heart disease .	7.38	Cholera inf'm, 4.58
Essex	Consumption . 16.43	Pneumonia . 7.88	Diphtheria .	7.44	Apoplexy . 6.81
Franklin	Consumption . 15.45	Pneumonia . 13.82	Old age .	9.82	Drowning * . 5.71
Hampden	Consumption . 14.36	Pneumonia . 8.15	Diphtheria .	7.99	Heart disease . 5.25
Hampshire	Consumption . 18.37	Pneumonia . 9.19	Old age .	6.59	Scarlet fever . 5.59
Middlesex	Consumption . 18.54	Pneumonia . 7.44	Heart disease .	5.40	Old age . 4.18
Norfolk	Consumption . 15.75	Old age . *	88 Pneumonia .	6.76	Diphtheria . 4.78
Plymouth	Consumption . 16.69	Old age .	821 Pneumonia .	6.87	Paralysis . 5.04
Suffolk	Consumption . 15.89	Pneumonia . 8.05	Diphtheria .	5.15	Cholera inf'm, 5.51
Worcester	Consumption . 15.98	Pneumonia . 9.99	Old age .	6.33	Heart disease . 5.08

* Chiefly lost at sea in fishing.

In the next table are given the five principal causes of death for the various ages. The diarrhoeal diseases of the hot months, diphtheria, pneumonia, scarlet fever, and obscure diseases, largely of the brain and intestines, characterize the first period. From five to ten the infectious diseases and obscure diseases of childhood occupy the most prominent places; pneumonia is less prominent. From ten to fifteen, consumption and typhoid fever follow diphtheria. From fifteen to twenty, consumption occupies the first place; typhoid fever is second; pneumonia is prominent from thirty upwards, and heart disease is next; cancer is in the list only from forty to sixty; paralysis and apoplexy gain more prominence from forty upwards; and, over seventy, the greatest portion die of old age.

In infancy diarrhoeal diseases caused nearly one-seventh of the total mortality; diphtheria, nearly one-tenth; pneumonia, as last year, a little over one-fifteenth; scarlet fever, one-eighteenth; and obscure diseases of which the prominent symptoms are referred to the central nervous system, not far from one-twentieth.

In childhood diphtheria, croup, and scarlet fever caused more than one-half of the whole number of deaths; pneumonia and brain diseases, next in order, were very much less fatal than in the previous period.

From ten to fifteen, diphtheria is at the head of the list, without the great prominence it had from five to ten; consumption, typhoid fever, and scarlet fever are next, while brain diseases do not appear.

From fifteen to twenty, consumption causes nearly one-half of all the deaths; typhoid fever, heart disease, and pneumonia follow; diphtheria falls out of the list, and childbirth appears.

Consumption appears as causing more than half the deaths from twenty to thirty, and thence upwards of less and less importance up to seventy, when old age is the first cause. From the same age (20), through life, pneumonia stands second, with a very uncommon prevalence and fatality for the year; heart disease and paralysis become more frequent; typhoid fever and childbirth reach their highest points between the ages of twenty and forty.

DEATHS FROM MOST DESTRUCTIVE FIVE CAUSES, BY AGES.—1879.

AGES.	Total Deaths.	1.	2.	3.	4.	5.
Under 5	10,161	Cholera inf'm, 1,349	Diphtheria . 1,006	Pneumonia .	742 Scarlet fever .	565 Convulsions . 534
5 to 10	1,412	Diphtheria . 502	Scarlet fever .	Croup .	81 Cephalitis .	76 Pneumonia . 56
10 to 15	616	Diphtheria . 128	Consumption .	84 Typhoid fever,	42 Scarlet fever .	41 Drowned . 25
15 to 20	1,076	Consumption . 528	Typhoid fever,	93 Pneumonia .	67 Heart disease .	33 Diphtheria . 30
20 to 30	2,956	Consumption . 1,580	Pneumonia .	166 Typhoid fever,	152 Heart disease .	114 Bright's dis.* . 55
30 to 40	2,544	Consumption . 1,012	Pneumonia .	213 Heart disease .	149 Typhoid fever,	74 Childbirth . 65
40 to 50	2,294	Consumption . 649	Pneumonia .	235 Heart disease .	150 Cancer .	109 Apoplexy . 68
50 to 60	2,312	Consumption . 416	Pneumonia .	264 Heart disease .	206 Cancer .	136 Paralysis . 110
60 to 70	2,827	Consumption . 390	Pneumonia .	354 Heart disease .	311 Paralysis .	185 Apoplexy . 154
70 to 80	3,100	Old age .	Pneumonia .	345 Heart disease .	325 Paralysis .	315 Consumption . 223
80 and over	2,153	Old age .	Pneumonia .	167 Paralysis .	162 Heart disease .	114 Apoplexy . 93
Not stated	350					

* Childbirth coming very near; namely, 52.

The NUMBER of Deaths, from several Specified Causes, of each Sex, in each Month, and at Different Specified Periods of Life, which were registered during the year 1879.

		THE YEAR 1879.																									
		SEX.			Small-pox.			Measles.			Scarlatina.			Diphtheria.		Croup.		Typhoid Fever.		Dysentery.		Cholera Infantum.		Consumption.		Pneumonia.	
	Totals	•	•	•	7	19	850	1,734	559	637	372	1,349	5,223	2,647													
Males	•	•	•	•	3	10	412	803	328	187	723	2,287	1,281														
Females	•	•	•	•	4	9	437	931	256	309	185	625	2,936	1,366													
Not stated	•	•	•	•	—	—	1	—	—	—	—	1	—	—													
January	•	•	•	•	—	—	4	79	223	74	53	4	2	512	481												
February	•	•	•	•	—	—	2	65	168	65	36	6	3	424	346												
March	•	•	•	•	1	2	97	143	68	32	5	2	2	487	354												
April	•	•	•	•	—	2	70	133	46	39	8	2	2	505	318												
May	•	•	•	•	—	3	73	110	29	39	6	11	479	228													
June	•	•	•	•	1	1	83	117	18	40	11	19	379	119													
July	•	•	•	•	—	—	62	87	20	38	59	384	399	99													
August	•	•	•	•	—	1	48	100	8	71	137	593	402	78													
September	•	•	•	•	—	1	46	107	24	86	82	226	404	71													
October	•	•	•	•	—	—	—	67	178	54	85	36	75	424	118												
November	•	•	•	•	—	2	92	195	72	56	10	20	392	180													
December	•	•	•	•	5	1	68	173	81	62	8	12	416	255													
Not stated	•	•	•	•	—	—	—	—	—	—	—	—	—	—	—												

MONTHS.

The PERCENTAGES of Deaths, from several Specified Causes, of each Sex, in each Month, and at Different Specified Periods of Life, which were registered during the year 1879.

		THE YEAR 1879.		Small-pox.	Measles.	Scarlatina.	Diphtheria.	Group.	Typhoid Fever.	Dysentery.	Cholera Infantum.	Consumption.	Pneumonia.
SEX.	MONTHS.	Totals	•	•	•	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
Males	January	42-86	52-63	48-17	46-31	54-20	51-49	50-27	53-60	43-79	48-39	51-61	-
Females	February	57-14	47-37	51-41	53-69	45-80	48-51	49-73	46-33	56-21	-	-	-
Not stated	March	-	-	-	-	-	-	-	-	-	-	-	-
	April	-	-	-	-	-	-	-	-	-	-	-	-
	May	-	-	-	-	-	-	-	-	-	-	-	-
	June	-	-	-	-	-	-	-	-	-	-	-	-
	July	-	-	-	-	-	-	-	-	-	-	-	-
	August	-	-	-	-	-	-	-	-	-	-	-	-
	September	-	-	-	-	-	-	-	-	-	-	-	-
	October	-	-	-	-	-	-	-	-	-	-	-	-
	November	-	-	-	-	-	-	-	-	-	-	-	-
	December	-	-	-	-	-	-	-	-	-	-	-	-
Not stated	71-43	5-26	8-00	9-98	14-49	9-73	2-15	-	-	-	-	-	-

The NUMBER of Deaths, from several Specified Causes, of each Sex, in each Month, and at Different Specified Periods of Life, which were registered during the Seventeen Years, 1863-79.

	SEVENTEEN YEARS.			Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Typhoid Fever.	Dysentery.	Cholera Infantum.	Consumption.	Pneumonia.
	Totals	.	.	.	3,155	3,317	18,104	16,279	9,164	19,412	11,296	29,848	85,667
Males	.	.	.	1,898	1,684	9,085	7,648	4,824	10,041	5,601	15,837	38,599	17,378
Females	.	.	.	1,254	1,631	9,014	8,624	4,337	9,367	5,685	13,976	47,057	16,571
Not stated	.	.	.	3	2	5	7	3	4	10	35	11	4
January.	.	.	.	457	192	2,083	1,756	1,116	1,307	98	126	7,320	4,186
February.	.	.	.	277	268	1,837	1,379	869	1,019	102	112	6,775	4,236
March.	.	.	.	268	329	2,090	1,264	920	1,130	112	153	7,854	4,698
April.	.	.	.	251	371	1,910	1,165	723	1,056	133	162	7,513	3,948
May.	.	.	.	275	434	1,760	1,069	583	982	143	224	7,636	3,189
June.	.	.	.	195	429	1,392	1,036	396	893	301	644	6,453	1,815
July.	.	.	.	178	451	1,097	958	339	1,144	1,617	7,836	6,847	1,275
August.	.	.	.	115	296	881	925	331	2,080	3,920	11,930	7,234	1,072
September.	.	.	.	146	118	803	1,247	539	2,767	3,127	6,319	7,120	1,319
October.	.	.	.	212	92	1,071	1,812	921	3,137	1,272	1,854	7,071	1,916
November.	.	.	.	295	143	1,446	1,868	1,191	2,254	325	346	6,831	2,757
December.	.	.	.	486	193	1,730	1,797	1,236	1,631	142	140	6,993	3,538
Not stated	.	.	.	-	1	4	3	-	12	4	2	20	4

Total	.	.	.	.	3,155	3,317	18,104	16,279	9,164	19,412	29,848	85,667	33,953	
Under 5	.	.	.	.	1,017	2,680	12,044	8,899	7,816	1,758	6,067	29,848	5,201	12,095
5 to 10	.	.	.	.	217	289	4,427	4,632	1,213	1,249	787	-	867	977
10 to 15	.	.	.	.	102	52	899	1,273	77	1,458	233	-	1,554	385
15 to 20	.	.	.	.	267	68	311	430	12	2,750	181	-	7,845	826
20 to 30	.	.	.	.	848	106	256	439	9	4,598	409	-	23,642	2,033
30 to 40	.	.	.	.	330	36	75	264	9	2,163	419	-	16,170	2,326
40 to 50	.	.	.	.	138	33	22	117	4	1,523	436	-	10,730	2,666
50 to 60	.	.	.	.	95	12	22	71	4	1,262	561	-	7,575	2,921
60 to 70	.	.	.	.	58	13	10	75	1	1,260	721	-	6,691	3,808
70 to 80	.	.	.	.	30	15	4	35	1	940	880	-	4,143	3,848
Over 80	.	.	.	.	17	5	1	7	1	350	552	-	888	1,944
Unknown	.	.	.	.	36	8	33	37	17	92	50	-	361	124

The PERCENTAGES of Deaths, from several Specified Causes, of each Sex, in each Month, and at Different Specified Periods of Life, which were registered during the Seventeen Years, 1863-1879.

	SEVENTEEN YEARS.			Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Typhoid Fever.	Dysentery.	Cholera Infantum.	Consumption.	Pneumonia.
Totals	.	.	.	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00
Males	.	.	.	60-16	50-77	50-18	46-98	52-64	51-73	49-58	53-06	45-06	51-18
Females	.	.	.	39-74	49-17	49-79	52-97	47-33	48-25	50-33	46-82	54-93	48-81
Not stated10	.06	.03	.05	.03	.02	.09	.12	.01	.01
January	.	.	.	14-48	5-79	11-50	10-79	12-18	6-73	.87	.42	8-55	12-33
February.	.	.	.	8-78	8-09	10-15	8-47	9-48	5-25	.90	.38	7-91	12-48
March	.	.	.	8-49	9-92	11-54	7-76	10-04	5-82	.99	.51	9-17	13-84
April	.	.	.	7-96	11-19	10-55	7-16	7-89	5-44	1-18	.54	8-77	11-63
May	.	.	.	8-72	13-09	9-72	6-57	6-36	5-06	1-27	.75	8-91	9-39
June	.	.	.	6-18	12-94	7-69	6-36	4-32	4-60	2-66	2-16	7-53	5-35
July	.	.	.	5-64	13-60	6-06	5-89	3-70	5-89	14-31	26-25	7-99	3-75
August	.	.	.	3-65	8-93	4-87	5-68	3-61	10-72	31-70	39-97	8-45	3-16
September	.	.	.	4-63	3-55	4-43	7-66	5-88	14-26	27-68	21-17	8-31	3-88
October	.	.	.	6-72	2-77	5-92	11-13	10-05	16-16	11-26	6-21	8-26	5-64
November	.	.	.	9-35	4-31	7-99	11-47	13-00	11-61	2-88	1-16	7-97	8-12
December	.	.	.	15-40	5-82	9-56	11-04	13-49	8-40	1-26	.47	8-16	10-42
Not stated	.	.	.	—	—	—	—	—	—	—	.02	.04	.02

Totals	•	•	•	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00
Under 5	•	•	•	32.23	80.80	66.53	54.66	85.29	9.06	53.71	100.00	6.07	35.62
5 to 10	•	•	•	6.88	8.71	24.45	28.45	13.24	6.43	6.97	—	1.01	2.88
10 to 15	•	•	•	3.23	1.57	4.97	7.82	.84	7.51	2.06	—	1.81	1.13
15 to 20	•	•	•	8.46	2.05	1.72	2.64	.13	14.21	1.60	—	9.16	2.43
20 to 30	•	•	•	26.88	3.20	1.42	2.70	.10	23.69	3.62	—	27.60	5.99
30 to 40	•	•	•	10.46	1.09	.41	1.62	.10	11.14	3.71	—	18.88	6.85
40 to 50	•	•	•	4.38	.99	.12	.72	.04	7.85	3.86	—	12.52	7.85
50 to 60	•	•	•	3.01	.36	.12	.44	.04	6.50	4.97	—	8.84	8.60
60 to 70	•	•	•	1.84	.39	.06	.46	.01	6.49	6.38	—	7.81	11.22
70 to 80	•	•	•	.95	.45	.02	.21	.01	4.84	7.79	—	4.84	11.34
Over 80	•	•	•	.54	.15	—	.05	.01	1.80	4.89	—	1.04	5.73
Not stated	•	•	•	1.14	.24	.18	.23	.19	.48	.44	—	.42	.36

AGES.

In the preceding four tables the mortality from ten prominent causes of death is given for 1879; and also for the seventeen years, 1863-79, with percentages for the various months, at the different ages, and for the two sexes. The relations of these diseases to each other, and to the other conditions just named, are shown at a glance.

For the period of seventeen years it may be noticed that the two striking differences in mortality by sex are that many more males than females died of small-pox, and more females than males of consumption.

Small-pox was most fatal in midwinter. Measles gradually increasing from October to July, the diminution apparently appearing about the time of closure of schools. Scarlet fever increases from September to March, and then declines. Diphtheria is least fatal in summer, most so in early winter; the possibly kindred disease, croup, following the same law, but more irregularly. Typhoid fever increases suddenly from July to August, September, and October, when the decline continues to June. Dysentery, like cholera infantum, prevails in hot weather. The highest mortality from consumption is in March; the lowest, in the pleasant month of June. Pneumonia increases steadily from August to March, and then declines.

The tabulation by ages shows the striking excess of mortality from pneumonia, diarrhoea, and contagious diseases in early life, the great fatality of typhoid fever from fifteen to thirty, and the high death-rate from consumption from youth to the age of fifty.

Brain Disorders.—Of the 2,841 decedents from *brain disorders*, 1,425 were males, 1,416 females; from apoplexy, 328 were males, 349 females; from paralysis, 452 males and 476 females; from insanity, 43 males and 75 females,—the *females* in the population having been 107·95 to 100 males by the census of 1875.

Of the 663 deaths from apoplexy, 9 were reported before the age of 20; 12, from 20 to 30; 43, from 30 to 40; 68, from 40 to 50; 104, from 50 to 60; and 427, or 64 per cent, above the age of 60.

Seventy-two per cent of the decedents by paralysis were 60 years old and over.

Insanity caused 64 deaths in persons 60 years old and over, 53 deaths between the ages of 60 and 15, and 1 below the latter-named age.

DEATHS from Brain Disorders.—Twenty Years.

YEARS.	Apoplexy.	Paralysis.	Insanity.	Unspecified Diseases of the Brain.	Totals.
1860 . . .	238	402	71	630	1,341
1861 . . .	274	417	61	764	1,516
1862 . . .	251	401	66	716	1,434
1863 . . .	268	471	62	798	1,599
1864 . . .	321	473	64	1,068	1,926
1865 . . .	263	479	75	964	1,781
1866 . . .	261	487	106	885	1,739
1867 . . .	281	469	111	806	1,667
1868 . . .	311	630	91	922	1,954
1869 . . .	331	607	87	923	1,948
1870 . . .	394	630	103	968	2,095
1871 . . .	390	714	89	998	2,191
1872 . . .	409	791	103	1,487	2,790
1873 . . .	431	858	88	1,184	2,561
1874 . . .	433	775	100	1,134	2,442
1875 . . .	460	896	118	1,142	2,616
1876 . . .	507	826	146	1,053	2,532
1877 . . .	544	873	112	1,011	2,540
1878 . . .	562	895	152	1,182	2,791
1879 . . .	663	928	118	1,132	2,841

The progressive rate of increase of these diseases is well shown in the following table, giving the death-rates from those causes in the last four census years:—

	1860.	1865.	1870.	1875.
Mortality-rates per 10,000 from —				
Apoplexy	1·93	2·08	2·70	2·78
Paralysis	3·26	3·78	4·32	5·43
Insanity . . . . .	.58	.59	.71	.71
Unspecified diseases of the brain . .	5·93	7·61	6·64	6·91
Totals	11·70	14·06	14·37	15·83

Cancer.—By the table on page 58 it may be seen that there were 862 deaths from cancer in the State in 1879, or at the rate of 5·02 to each 10,000 living.

Excluding the 84 deaths from cancer of the uterus, there were 275 deaths of males and 503 of females, or 183 of the latter to 100 of the former.

Sixty-eight of the deaths from cancer of the uterus occurred

between the ages of 30 and 60 ; of the others, 185 were between the ages of 50 and 60, 199 between 60 and 70, or 49·4 per cent between the ages of 50 and 70.

Cholera Infantum caused a smaller number of deaths in 1879 than in any other year since 1867. The death-rate from it was 5·53 per 10,000 of the population less than the average for the ten years, and was less in 1879 than in any other of those years, as may be seen by the next table : —

Mortality from Cholera Infantum. — Ten Years.

YEARS.	Deaths from Cholera Infantum.	Death-Rate per 10,000 of Population.	YEARS.	Deaths from Cholera Infantum.	Death-Rate per 10,000 of Population.
1870 . .	1,914	13·14	1876 . .	2,087	12·63
1871 . .	1,718	11·50	1877 . .	1,927	11·63
1872 . .	3,254	21·24	1878 . .	1,573	9·44
1873 . .	2,553	16·25	1879 . .	1,349	7·86
1874 . .	2,322	14·41	Average . .	-	13·39
1875 . .	2,606	15·77			

Of the 1,349 deaths from cholera infantum, 723 were of males, 625 of females, 1 unknown.

Two deaths occurred in January, in March, and in April ; 3 in February ; 11 in May ; 12 in December ; 19 in June ; 20 in November ; 75 in October ; 226 in September ; 384 in July ; 593 in August. In August the mortality was 43·9 per cent of the whole number ; in July, August, and September, 88·8 per cent, or, in round numbers, the same as for the previous three years.

The counties in the order of the least mortality were as follows : Dukes and Nantucket, Barnstable (Cape), Franklin, Hampshire, Plymouth, Berkshire, Norfolk, Hampden, Bristol, Worcester, Essex, Middlesex, Suffolk. In a general way the mortality from cholera infantum increases as the population is concentrated.

In the sixteen cities of 15,000 inhabitants and over, containing by the preliminary schedules of the census of 1880 one-half the population of the State, 66·9 per cent of the deaths from cholera infantum occurred.

In the six cities containing over 35,000 inhabitants the order of mortality from cholera infantum was as follows, beginning with the least : Worcester, Boston, Cambridge, Lowell, Fall

River, Lawrence. The six cities contain 35 per cent of the population of the State, and reported, in 1879, 54 per cent of the deaths from cholera infantum.

Consumption in 1879 caused 5,223 deaths, — 16·83 per cent of the total mortality from all specified causes, and at the rate of 3·04 to every 1,000 people living, showing a marked and steady improvement from 4·73 in 1873.

The deaths by months and quarters, as given for 1879 in the next table, differ somewhat from the averages for a long period of years, the third quarter being the second in average fatality.

Mortality from Consumption, by Months and Quarters. — 1879.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Months . . .	512	424	487	505	479	379	399	402	404	424	392	416
Quarters . . .		1,423			1,363			1,205			1,232	
Percentages . . .	27·24			26·10			23·07			23·59		

The greater liability to consumption of the female sex, as compared with males, at nearly all periods of life, and the prevalence of the disease according to the various times of life, showing its greatest fatality between the ages of 20 and 30, are conspicuously brought out in the next table. The percentage of males to females was 42·65 to 57·33 (.02 unknown).

Mortality from Consumption, by Sex and Age. — 1879.

AGES.	Total Deaths, 1879.	Deaths from Consumption.	Percentages at several Ages.	Males.	Females.
Under 15 . . .	12,189	360	6·89	149	211
15 to 20 . . .	1,076	528	10·11	181	347
20 to 30 . . .	2,956	1,580	30·25	633	947
30 to 40 . . .	2,544	1,012	19·38	439	573
40 to 50 . . .	2,294	649	12·42	311	338
50 to 60 . . .	2,318	416	7·97	233	183
60 to 70 . . .	2,828	390	7·47	211	179
70 to 80 . . .	3,100	223	4·27	102	121
80 and over . . .	2,152	55	1·05	23	32
Age not stated . . .	349	10	.19	5	5
Totals . . .	31,801	5,223	100·00	2,287	2,936

In the next table the percentages are calculated from the total mortality, excluding still-births; those deaths reported "unknown" being so largely of infants, with whom consumption does not prevail, that there would probably be only a slight error in including them here.

DEATHS from Consumption, by Counties.—1879.

COUNTIES.	Deaths.	Percent-age of total Mortality.	COUNTIES.	Deaths.	Percent-age of total Mortality.
Barnstable . .	95	16.41	Hampshire .	142	17.78
Berkshire . .	133	12.52	Middlesex .	985	18.07
Bristol . .	383	13.24	Norfolk . .	240	15.48
Dukes and Nantucket . .	31	17.22	Plymouth . .	197	16.25
Essex . .	787	16.18	Suffolk . .	1,394	10.90
Franklin . .	85	15.04	Worcester . .	563	15.90
Hampden . .	275	13.77	The State .	5,223	15.79

Diphtheria appeared first in our registration returns in 1858. There are reasons for considering it another form of the disease which has been known as "membranous croup." It certainly is not always possible to discriminate between them if they are not the same disease.

At all events, while leaving the question open for the present, it will be convenient to study the statistics of diphtheria and croup in one table; for, not being always distinguishable at the bedside as two diseases, it is not possible to wholly separate them in the mortality reports.

Mortality from Diphtheria and Croup.—Twenty-five Years.

YEARS.	DEATHS.			PERCENTAGE OF DEATHS FROM ALL CAUSES.			DEATHS TO EVERY 10,000 LIVING.		
	Croup.	Diphtheria.	Total.	Croup.	Diphtheria.	Total.	Croup.	Diphtheria.	Total.
1855	509	—	509	2.43	—	—	4.5	—	—
1856	519	—	519	2.46	—	—	4.5	—	—
1857	518	—	518	2.41	—	—	4.4	—	—
1858	497	18	515	2.36	.09	2.45	4.2	.1	4.3
1859	528	32	560	2.48	.14	2.62	4.4	.2	4.6
1860	579	258	837	2.46	1.10	3.56	4.7	2.1	6.8
1861	643	1,104	1,747	1.89	2.64	4.53	3.7	5.2	8.9
1862	663	1,147	2,080	2.85	4.93	3.9	5.3	9.2	11.3
1863	1,420	2,284	3,094	5.08	8.17	6.9	15.9	18.2	18.2
1864	768	1,231	1,999	2.66	4.27	6.93	6.1	9.8	9.3
1865	504	672	1,176	1.91	2.56	4.47	4.0	5.3	6.4
1866	431	399	830	1.79	1.65	3.44	3.3	3.1	4.5
1867	366	251	607	1.53	1.07	2.60	2.6	5.7	5.7
1868	485	297	782	1.92	1.18	3.10	3.5	2.2	2.2
1869	473	296	769	1.84	1.15	2.99	3.3	2.1	5.4
1870	434	242	676	1.61	.89	2.50	2.9	1.7	4.6
1871	473	274	747	1.69	.97	2.66	3.2	1.8	5.0
1872	480	273	753	1.38	.78	2.16	3.1	1.8	4.9
1873	435	310	745	1.28	.92	2.20	2.8	1.9	4.7
1874	411	502	913	1.28	1.56	2.84	3.5	3.1	5.6
1875	680	1,200	1,880	1.92	3.39	5.31	4.1	7.3	11.4
1876	684	2,610	3,294	2.13	8.11	10.24	4.1	15.8	19.9
1877	544	2,634	3,178	1.78	8.65	10.43	3.3	15.8	19.1
1878	583	1,934	2,517	1.91	6.35	8.26	3.4	11.6	15.0
1879	559	1,734	2,293	1.69	5.24	6.93	3.3	10.1	13.4

The epidemic of the past five years has been characterized by a degree of malignancy and infectiousness which do not belong to "membranous croup," and these two features have usually found expression in the term *diphtheria*, so that it will be profitable to study it by itself for this epidemic period. Its appearance in the several counties is shown in the following table:—

Mortality from Diphtheria, by Counties.—1873-79.

COUNTIES.	DEATHS FROM DIPHTHERIA.						
	1873.	1874.	1875.	1876.	1877.	1878.	1879.
Barnstable	4	1	24	14	22	69	56
Berkshire	33	114	110	110	131	52	24
Bristol	23	50	43	104	180	165	141
Dukes and Nantucket	—	—	—	—	33	24	1
Essex	40	32	96	503	645	355	355
Franklin	14	69	74	24	7	10	18
Hampden	17	32	93	113	132	149	153
Hampshire	6	14	27	74	37	25	36
Middlesex	49	75	173	576	514	320	276
Norfolk	16	9	30	132	164	96	99
Plymouth	14	12	29	135	82	45	36
Suffolk	66	62	431	667	380	427	422
Worcester	28	32	70	208	307	197	117
The State	310	502	1,200	2,610	2,634	1,934	1,734

The mortality by months and by quarters is as follows:—

MORTALITY from Diphtheria, by Months and Quarters.—1879.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Months	223	168	143	133	110	117	87	100	107	178	195	173
Quarters	534			360			294			546		
Percentages	30 8			20 8			16 9			31 5		

Fifty-eight per cent of the deaths were of children under five years of age; twenty-nine per cent between the ages of five and ten; eighty-seven per cent of the deaths were of children under ten.

Dysentery was the recorded cause of 372 deaths in 1879, as compared with 602 in 1878, 580 in 1877, and 417 in 1876; or at the rate of 2·2 to each 10,000 living, and not much over one per cent of the total deaths from all causes (specified). There were 137 deaths in August, 82 in September, 59 in July, and 36 in October,—in all 314, or 85 per cent of all the deaths for the year from that cause.

Of children under 5 years of age, 174 died of it; 43, from 70 to 80; 34, from 60 to 70; 24, from 5 to 10; 22, from 50 to 60, and also over 80; 16, from 30 to 40; 14, from 40 to 50; 13, from 30 to 40.

The prevalence by counties, as shown in the next table, varies somewhat from year to year.

MORTALITY FROM DYSENTERY, *by Counties.*

COUNTIES.	Death-Rate per 10,000 from Dysentery, 1875.	DEATHS FROM DYSENTERY.				
		1875.	1876.	1877.	1878.	1879.
Barnstable	2·80	9	11	7	5	1
Berkshire	2·64	18	13	21	10	5
Bristol	3·51	46	37	20	73	65
Dukes and Nantucket .	1·38	1	1	—	2	1
Essex	1·48	33	47	65	47	26
Franklin	4·75	16	7	12	2	5
Hampden	1·49	14	10	10	8	10
Hampshire	3·35	15	7	13	9	5
Middlesex	2·82	80	69	142	158	86
Norfolk	2·72	24	14	38	23	10
Plymouth	5·48	38	26	18	16	19
Suffolk	2·52	92	98	159	221	109
Worcester	2·42	51	77	75	28	30
The State	2·65	437	417	580	602	372

Measles was less prevalent in 1879 than for any of the previous twenty years. Of the 19 deaths, 15 were of children under five years of age.

There were 4 deaths in January; 3 in May; 2 in February, March, April, and November; 1 in June, August, September, and December.

Mortality from Measles. — 1859-79.

YEARS.	Deaths from Measles.	Deaths from Measles to 100 Deaths from all Causes.	Death-Rate per 10,000 Living.
1859	110	.52	.9
1860	224	.95	1.8
1861	209	.86	1.7
1862	369	1.59	2.9
1863	142	.51	1.1
1864	320	1.12	2.5
1865	136	.52	1.1
1866	109	.46	.8
1867	194	.85	1.5
1868	287	1.12	2.1
1869	222	.85	1.6
1870	269	.98	1.8
1871	131	.47	.9
1872	428	1.22	2.8
1873	180	.53	1.1
1874	161	.50	1.0
1875	233	.67	1.4
1876	47	.14	.3
1877	135	.44	.8
1878	305	1.00	1.8
1879	19	.06	.1

Pneumonia was more fatal in 1879, causing 2,647 deaths; and more so than in any of the years antecedent, except 1875.

Mortality from Pneumonia.—Twenty Years.

YEARS.	Deaths from Pneu- monia.	Deaths to 10,000 Living.	YEARS.	Deaths from Pneu- monia.	Deaths to 10,000 Living.
1860	1,333	10·8	1870	1,718	11·9
1861	1,285	10·3	1871	1,858	12·4
1862	1,140	9·2	1872	2,295	14·9
1863	1,724	13·8	1873	2,097	13·3
1864	1,801	14·0	1874	2,386	14·8
1865	1,493	11·8	1875	2,940	17·8
1866	1,639	12·5	1876	2,447	14·7
1867	1,378	10·3	1877	1,972	11·8
1868	1,651	11·9	1878	2,171	13·0
1869	1,736	12·2	1879	2,647	15·4

By far the greatest mortality from pneumonia falls on children under five years of age, and in quite old persons.

Mortality from Pneumonia, by Ages.—1879.

AGES.	Deaths from Pneumonia, 1879.	Percentages, 1879.	Deaths from Pneumonia, 1878.	Percentages, 1878.
Under 5	742	28·0	786	36·2
5 to 10	56	2·1	79	3·6
10 to 20	96	4·0	59	2·7
20 to 30	166	6·3	122	5·6
30 to 40	213	8·1	138	6·4
40 to 50	235	8·2	165	7·6
50 to 60	264	9·9	164	7·6
60 to 70	354	13·4	226	10·4
70 to 80	345	13·0	269	12·4
Over 80	167	6·8	158	7·3
Age not stated	9	·2	5	·2
All ages	2,647	100·00	2,171	100·00

The fatality by seasons, as usual, shows the greatest prevalence in the first quarter of the year, the least in the third.

Eighty-five more deaths of females were reported for the year than of males.

Mortality from Pneumonia, by Months and Quarters. — 1879.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Months . . .	481	346	354	318	228	119	99	78	81	118	180	245
Quarters . . .	1,181			665			258			543		
Percentages . . .	44·6			25·1			9·8			20·5		

Scarlatina was more fatal in 1879 than in the two previous years. It does not seriously diminish, as in some other States, coincident with the prevalence of diphtheria.

Of the 850 deaths, 565 were of children under 5 years of age; 209 between 5 and 10; 41 between 10 and 15; 12 between 15 and 30.

Of the two sexes, the male suffered less (412 to 437).

Mortality from Scarlet Fever. — Twenty Years.

YEARS.	Deaths from Scarlatina.	Percentage of Deaths from Scarletina to Deaths from all Causes.	Death-Rates per 10,000 Living.	YEARS.	Deaths from Scarlatina.	Percentage of Deaths from Scarletina to Deaths from all Causes.	Death-Rates per 10,000 Living.
1860 . . .	916	3·92	7·4	1870 . . .	683	2·49	4·7
1861 . . .	1,137	4·66	9·2	1871 . . .	867	3·10	5·8
1862 . . .	1,261	5·42	10·1	1872 . . .	1,377	3·93	8·9
1863 . . .	1,399	5·01	11·1	1873 . . .	1,472	4·34	9·4
1864 . . .	1,503	5·21	11·9	1874 . . .	1,382	4·33	8·6
1865 . . .	807	3·06	6·4	1875 . . .	1,684	4·81	10·2
1866 . . .	385	1·58	2·9	1876 . . .	1,222	3·79	7·4
1867 . . .	828	3·63	6·2	1877 . . .	467	1·53	2·8
1868 . . .	1,369	5·35	9·1	1878 . . .	404	1·33	2·4
1869 . . .	1,405	5·39	9·9	1879 . . .	850	2·63	4·9

Ninety-two of the deaths occurred in November, 87 in March, 83 in June, 79 in January, 73 in May, 70 in April, 68 in December, 67 in October, 65 in February, 62 in July, 52 in September, 48 in August.

Small-pox caused 7 deaths, 4 of children under five years of age,—5 in December, 1 in March, 1 in June.

Mortality from Small-pox.—1851-79.

YEARS.	Deaths from Small-pox.	Percentage of Deaths from Small-pox to Deaths from all Causes.	Death-Rate per 10,000 Living.	YEARS.	Deaths from Small-pox.	Percentage of Deaths from Small-pox to Deaths from all Causes.	Death-Rate per 10,000 Living.
1851 . .	117	.64	1·2	1866 . .	141	.59	1·1
1852 . .	33	.18	.3	1867 . .	196	.82	1·5
1853 . .	38	.19	.4	1868 . .	20	.08	.2
1854 . .	207	.98	1·9	1869 . .	59	.22	.4
1855 . .	328	1·47	2·9	1870 . .	131	.48	.9
1856 . .	140	.68	1·2	1871 . .	294	1·05	1·9
1857 . .	23	.11	.2	1872 . .	1,029	2·94	6·7
1858 . .	12	.10	.1	1873 . .	668	1·97	4·3
1859 . .	255	1·22	2·1	1874 . .	26	.08	.2
1860 . .	334	1·45	2·7	1875 . .	34	.09	.2
1861 . .	33	.14	.3	1876 . .	31	.09	.2
1862 . .	40	.17	.3	1877 . .	24	.08	.15
1863 . .	42	.15	.3	1878 . .	2	.007	.012
1864 . .	242	.84	1·9	1879 . .	7	.02	.04
1865 . .	221	.84	1·7				

Typhoid Fever caused fewer deaths than in any other of the twenty-three years. There is a progressive decrease in its mortality from 1,703 deaths in 1872 to 637 in 1879.

Nineteen more deaths were recorded of males than of females.

Two hundred and forty-five of the decedents were between the ages of 15 and 30 years of age; 76 between 30 and 40; 58 between 40 and 50; 48 under 5; 42 between 10 and 15. From 5 to 10, 50 to 60, 60 to 70, and 70 to 80, the deaths were from 38 to 40.

MORTALITY from Typhoid Fever. — 1857-79.

Deaths from Typhoid Fever, by Counties.—1869-79.

The mortality-table by counties shows a striking diminution from typhoid fever in all. The statistics are given in the table on the preceding page.

Whooping-cough caused 302 deaths, as compared with 400, 369, 192, 242, 449, 264, 363, 243, 330, and 320, in the previous ten years, beginning in order with 1878.

Two hundred and eighty-seven of the deaths were of children under five years of age.

There were 127 males and 175 females.

Thirty-nine of the deaths were in August; 33 in December; 30 in October; 27 in April and May; 25 in November and September; 22 in June; 21 in January, March, and July; 15 in February.

METEOROLOGY.

The barometric means and ranges for the several months in 1879, as recorded by the United States Signal Service Bureau in Boston, were as follows:—

MONTHS.							Means.	Ranges.
January							29.925	1.407
February							30.000	1.688
March							30.089	1.795
April							29.866	1.360
May							30.054	.916
June							29.940	.781
July							29.957	.696
August							29.936	.864
September							30.122	.753
October							30.096	1.519
November							30.096	1.342
December							30.179	1.234
Annual mean							30.022	1.196

The readings of the thermometer were as follows:—

MONTHS.							Means.	Maxima.	Minima.	Ranges.
January							24.5	56	0.0	56
February							24.5	56	4	52
March							33.8	61	8	53
April							42.4	70	19	51
May							59.4	93	38	55
June							64.2	96	45	51
July							69.9	94	50	44
August							67.7	95	52	43
September							60.8	89	34	55
October							56.6	88	25	63
November							39.2	69	9	60
December							32.6	63	0.0	63
Annual mean							48.0	77.5	23.7	53.8

The mean humidity, direction of the wind, and wind-velocity were as follows:—

	MONTHS.						Mean Humidity.	Direction of Wind.	Wind-Velocity.
January							62.6	N.W.	8,488
February							66.1	N.W.	8,323
March							73.7	N.W.	7,462
April							61.1	W.	9,466
May							61.8	S.W.	6,937
June							70.1	S.W.	6,505
July							69.2	S.W.	6,794
August							73.1	W.	6,662
September							73.2	S.W.	5,392
October							64.7	W.	7,690
November							71.5	W.	7,813
December							68.3	W.	7,464
Annual mean							67.9	W.	7,416

The rainfall was as follows:—

	MONTHS.						Inches of Rainfall.	Days of Rain or Snow.
January							2.79	16
February							4.35	16
March							3.90	16
April							6.54	16
May . . . . . . . . . .							.97	13
June							6.24	20
July							3.09	12
August							6.71	12
September							1.84	12
October . . . . . . . . . .							.91	8
November							2.97	17
December							5.36	20
The year							45.67	178

The general character of the weather for the month of January was variable and changeable; “fair” succeeding stormy, and *vice versa*, in rapid succession.

The peculiarities of the month of February consisted in the extreme range and sudden changes of pressure, and the low mean temperature.

In March there was an unusual range in pressure; temperature unusually even; movement of wind very small, compared to the barometric fluctuations.

April had an unusually low mean pressure; general character of the month, stormy and changeable; storm of the 18th very severe.

In May there was a high mean temperature, and unusually high maximum; great deficiency in rainfall; pressure above normal.

In June the mean temperature was below the normal range; the mean humidity high, and there was an unusual monthly rainfall.

In July there was great damage by wind, hail, and lightning; and in the hurricane of the 16th thirty lives were lost in Boston and vicinity.

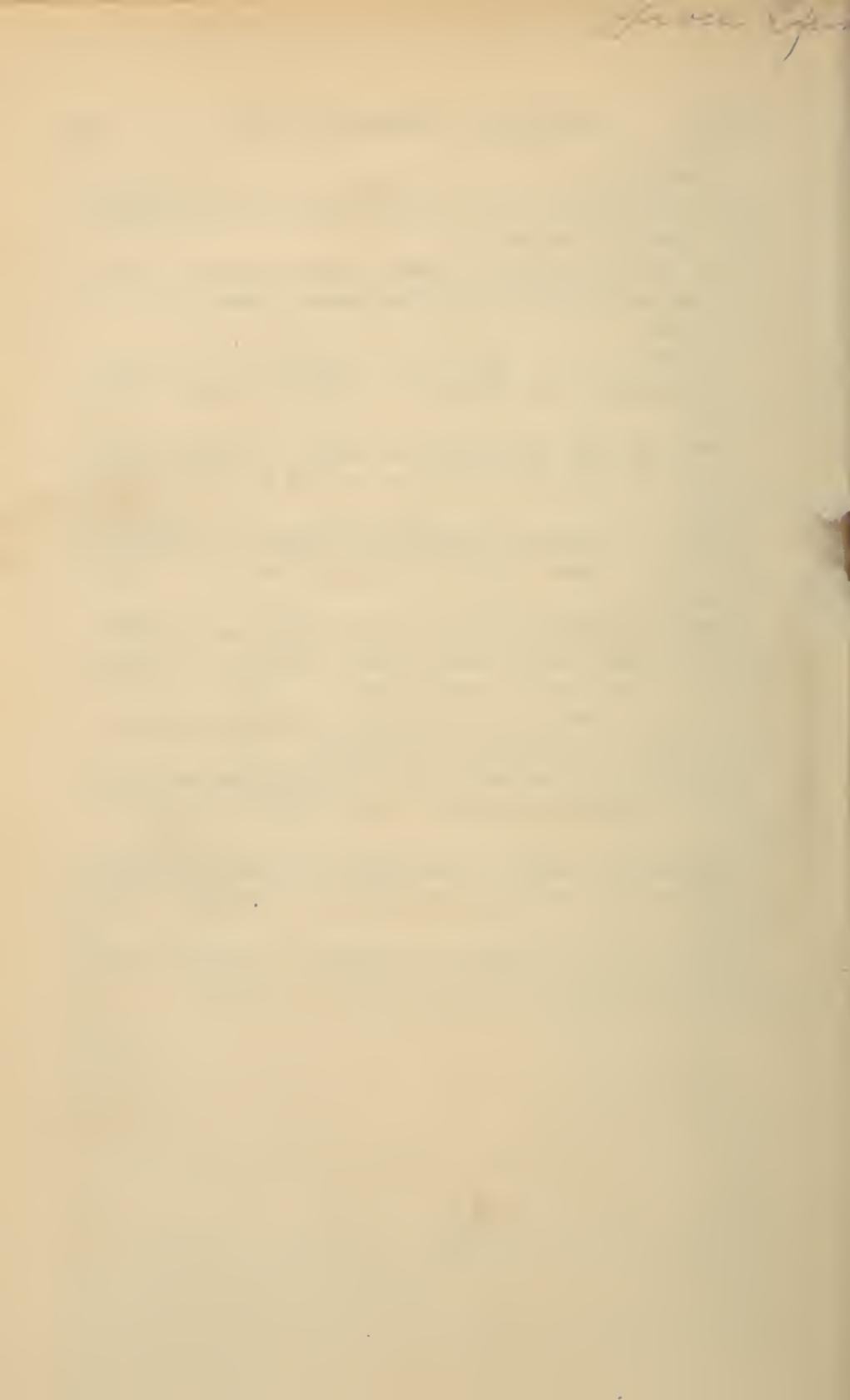
August was marked by an unusually high mean humidity. During the gale of the 18th and 19th there was an unusual rainfall,—five inches in twelve hours.

In September the barometer showed a high mean, very much above normal; minimum temperature low.

In October the mean barometer and temperature were above normal; maximum temperature unusual; gale on the 28th to 31st.

November was marked by many gales and unusual fluctuations of pressure; the mean barometer and temperature above normal.

In December the temperature and pressure were very changeable; mean barometer and temperature above normal.



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